

Trent University
Calendar 1971-1972



**Trent University
Peterborough, Ontario
Canada**



**Calendar 1971-1972
The Eighth Academic Year**

Nunc cognosco ex parte

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Notice:

Changes in some areas including new faculty appointments, courses, regulations and fees may occur. The University reserves the right to make such changes subsequent to publication of the Calendar.

Winter Term

Jan.	1	Saturday	New Year's Day
Jan.	3	Monday	Classes begin
Jan.	20	Thursday	Meeting of the Senate
Jan.	29	Saturday	Classes end
Jan.	31	Monday	Residential Reading and Laboratory Week begins
			Final date for payment of second instalment of tuition fees
Feb.	7	Monday	Classes begin
Feb.	17	Thursday	Meeting of the Senate
Feb.	29	Tuesday	Final date for withdrawal without penalty
Mar.	11	Saturday	Classes end
Mar.	12	Sunday to	March vacation and
Mar.	26	Sunday	Reading Period

Spring Term

Mar.	16	Thursday	Meeting of the Senate
Mar.	27	Monday	Classes begin
Mar.	31	Friday	Good Friday
Apr.	13	Thursday	Meeting of the Senate
Apr.	22	Saturday	Classes end
Apr.	24	Monday	Examinations begin
May	1	Monday	Final date for receipt of applications for admission to the Summer Session
May	6	Saturday	Examinations end
May	7	Sunday	Summer vacation and Reading Period begins
May	26	Friday	Convocation
June	30	Friday	Final date for receipt of applications from mature applicants
July	1	Saturday	Dominion Day
July	3	Monday	Summer Session classes begin
July	12	Wednesday	Normal closing date for appeals
July	15	Saturday	Final date for payment of deposit against tuition fees
Aug.	7	Monday	Civic Holiday
Aug.	12	Saturday	Summer Session classes end
Aug.	14	Monday	Summer Session examinations begin and continue until August 17



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T.J. Bata, ESQ.

J.J. Behan, ESQ.

G.D.W. Cameron, M.D., C.M., D.P.H., F.R.C.P., F.A.P.H.A.,
LL.D., K.G.S.J.

I.D. Chapman, B.SC., M.A.

Judge H.R. Deyman, B.A.

H.A. Dyde, O.B.E., M.C., C.C., Q.C., B.A., LL.B.,
B.C.L., LL.D.

J.A. Edmison, Q.C., B.A.

The Honourable E.A. Forsey, M.A., PH.D., LL.D.,
(MCGILL, NEW BRUNSWICK), D.LITT., F.R.S.C.

C.K. Fraser, B.SC., P.ENG., LL.D.

R.M. Grills, B.A.

E.W.I. Keenleyside, ESQ.

T.P. McMillan, ESQ.

G.C. Monture, S.M., O.B.E., B.SC., D.SC.

J.J. Robinette, Q.C., D.C.L., LL.D.

S.T. Robson, B.A., D.PHIL.

M.J. Sidnell, M.A., PH.D.

H.B. Style, B.A.

J.G. Wharry, B.S.A.

J.E. Leishman, B.COM., C.A., *Secretary*



General Information

History

Trent University was formally created as an independent university with full degree-granting powers by an Act of Ontario Legislature in April 1963, and accepted its first undergraduate class in September 1964. The creation of the University was the culmination of several years of preparation and planning, both by public-spirited citizens of the City of Peterborough and by a group of academic advisers who made up the University's Academic Planning Committee, created in 1961 under the chairmanship of the President-designate, T.H.B. Symons. In July 1963, more than a year before the University accepted its first class, a nucleus of faculty members and senior administrative staff assumed full-time duties.

During the early years, the Academic Planning Committee initiated the broad academic preparation for the University, and made proposals for the curriculum, library arrangements, teaching methods, admissions and scholarship policy, and the general concepts of the University. A Campus Planning Committee, consisting also of experienced academic persons, undertook planning for the site and architecture. The proposals of these two planning committees were accepted in full as the basic policies of the University.

An academic staff of 24, in 16 fields of study, took up duties at the University on July 1, 1964, for the first academic year. They were joined that September by a first-year class of 102 undergraduates, and by three students pursuing postgraduate degrees. The first convocation, held in June 1967, saw the awarding of one Master of Science degree, 51 Bachelor of Arts degrees and 21 Bachelor of Science degrees, as well as five honorary degrees. In the seventh academic year, 1970-71, there were 149 members of the faculty, 1,642 undergraduates, 11 graduate students, 532 part-time students and 527 students in the summer session.

The University was elected to provisional membership in the Association of Universities and Colleges of Canada in 1965 and full membership in 1968. In the spring of 1966 Trent was elected to membership in the Association of Commonwealth Universities.

Aims

Trent University stresses the importance of a liberal undergraduate education. In spite of the complexities of the modern university — the need for increasingly specialized fields of enquiry and for complex material and scientific facilities, the University believes that a liberal education is still basic. A liberal education is fundamentally an education for the intelligent use of freedom in society. Students at Trent are given a wide freedom to choose, to make their own decision about courses, fields of concentration, extracurricular activities and the organization of their time.

The University seeks to ensure, through a general emphasis on small group teaching, that each student is encouraged to pursue intensively his fields of interest in close association with his academic seniors. The University insists upon a good level of scholarship. The University is building and growing on a residential collegiate system because it believes that the full values of a liberal education both for residents and non-residents can best be realized through the corporate life of the colleges.



Site and Buildings

The University site is a rolling, wooded property located on both sides of the Otonabee River at the northern edge of Peterborough. The core of the site was the gift of the Canadian General Electric Company, and additional land, totalling more than 1,400 acres, has been acquired to meet the needs of the University. The Nassau campus is an area of outstanding beauty, providing the environment in which to create a university of special character and unique architectural appeal.

The master planning architect, Ronald J. Thom of Vancouver and Toronto, has created a development plan which has and will provide for a number of colleges, a library, science laboratories and other facilities for a university community of more than 3,500 students and academic staff.

The University also occupies premises within the City of Peterborough. The Rubidge Hall complex contains reading rooms, lecture and tutorial rooms, geography and anthropology laboratories, faculty offices, and a snack bar. Two residential colleges are also located in the city—Catharine Parr Traill College and Peter Robinson College, both of which are coeducational—offering residential accommodation and dining, common room, and teaching facilities for their members. Champlain College, the first college for men on the main campus, opened in 1967, and Lady Eaton College, the first college for women on the main site, opened in 1968. A fifth college has been started this year. A science building, housing all Biology and some Psychology laboratories, opened in September, 1967 on the Nassau site. A new Science Complex housing the departments of Chemistry and Physics was opened in the autumn of 1968, and the new Thomas J. Bata Library opened its doors in the spring of 1969. In addition to tennis courts, a squash court, a track and playing fields, and many natural facilities for sport provided by the University's 1,400 acre campus on the river, temporary indoor athletic facilities, in the form of an air hall, are now in use on the Nassau site.

Tutorial and Seminar Teaching

It is the conviction of Trent University that a university education should engage each student in the exploration of ideas with members of the faculty and with fellow students. To achieve this, a variety of small teaching groups have been established according to the requirements of the given discipline. Students are required by directed reading, the preparation of essays and other assignments and laboratory work in the sciences, to take an active part in regular academic discussions in small groups in most courses.

At registration each student is assigned to a supervisor of studies who is responsible for advising him on his choice of courses and for reviewing with him his progress at regular intervals throughout the academic year. Students intending to return in the next academic year are counselled on their programs in the spring to enable them to pursue a program of summer reading. In most subjects the student is assigned to a tutor who is responsible, where applicable, for directing his reading, writing and small group participation.

In the section on Courses of Study in this Calendar may be found the teaching method employed in each



Academic Year

course offered. Each student will be provided with a course outline in September which may be a detailed week-by-week summary or only a more general outline of aims and teaching methods. It should state the frequency of class meetings, attendance requirements (if any) and the principles of the grading system which will be used. Generally speaking, lectures are less central in the teaching program at Trent than in many universities. In most courses some lectures are offered to guide, to clarify and to emphasize, rather than to cover prescribed material in detail. Lectures are normally open to any student wishing to attend and are not restricted to persons enrolled in that particular course. Regular attendance and satisfactory participation are required in the laboratory and in tutorials or seminars, but the student may find that lectures are a useful complement to formal discussions in these smaller groups.

Small group meetings may consist of a seminar, of about fifteen members, or a tutorial, of about six or seven students. The tutorial and seminar system assumes that the University is a place of liberal education and of learning, rather than of training and instruction. It therefore places a special responsibility on students to discipline their own work and to express themselves frequently and well in written and oral work, and to have their work constructively criticized by fellow students and teachers.

Undergraduates at the University are expected to devote a larger part of the whole year to their academic studies than is customary. The formal academic year at Trent is somewhat longer than at most Canadian universities, but there are significant pauses during the year from formal class studies for reading and assimilation. The tutorial and seminar system demands that a student distribute his work more evenly throughout the academic year. To facilitate this, the academic year is divided in a distinctive way, with a three-week recess in December, two weeks in March, and one-week reading and laboratory recesses in both November and February.

Undergraduates are expected to do considerable academic work outside term. Reading programs, which do not preclude summer employment, but which are of considerable value to the student, are suggested for most courses over the longer summer vacation. Such programs offer both an introduction and a background to work that will be undertaken in the following year.



Colleges

The college system is designed to offer genuine and constant opportunities to cross those boundaries between different subjects and fields of study which so often hinder liberal discussion in a university. The isolation of universities, can be avoided in one based on the college system by bringing together, within each college, students and faculty from all disciplines of the University.

Much formal academic work, particularly in the Arts, is done in the colleges, and various social and athletic organizations also exist within them. In the college communities, undergraduates may find both formal academic guidance and the fellowship of other students and members of the academic staff.

Enrolment in each of the colleges includes representation from all disciplines and all years of study, and each college has both resident members and members who live at home or in lodgings in the Peterborough area. Non-resident members of the colleges enjoy full use of the college facilities and are encouraged to take an active part in college life.

Four colleges, two in the city and two on the Nassau site, are now open and linked by a regular bus service.

The master plan of the University provides for the establishment over the years of about twelve colleges.

University Lodging Service

Students coming to Trent University who are not resident in the Colleges may obtain addresses of accommodation known to be available in Peterborough from the University's lodging service. Normally, the University will not arrange accommodation for non-resident students. Those students wishing to make use of this service should write to The Secretary, Committee on Colleges, Trent University, in advance of the autumn term.

All non-resident students of Trent University are members of a college and enjoy full use of its facilities, including its dining hall. The University maintains a frequent bus service which connects between centres of the University in the city of Peterborough and the Nassau Campus to the north of the city.



Peter Robinson College

Master

I.D. Chapman, B.Sc., M.A.

Senior Tutor A.M. Young, M.A., PHIL.M.; *Senior Don* W.F.W. Neville, M.A.; *Assistant to the Master* R.F. Johnston, B.A.

Peter Robinson College was named to honour the founder of Peterborough, who played a major part in the development of this region. In the pioneering tradition of its name-sake, Peter Robinson College was the first college at Trent, opening in September 1964 as a men's college, and in 1967 pioneering a new development in the University by becoming the first coeducational college. The smallest college in the University, it looks forward to a continuing pioneer role.

The College tends to attract those students who prefer to live in the city, either in residence or in lodgings near the College. All students of the College, therefore, have an opportunity to make the College a centre for academic, cultural and social events. As well, these students have involved themselves in the wider community of the city through social work projects of the University Community Action Program.

The members of the College prefer an informal atmosphere which is expressed by the adaptation of older houses for use as residences, teaching offices for the faculty, dining and recreational facilities. In an experiment which has aroused province-wide interest, the College is continuing this tradition by building a townhouse development for about 100 students. The houses have four or six single bedrooms, a kitchen, dining area and living room, thus providing a greater opportunity for students to make their own living arrangements within the College.

Besides the formal teaching which takes place in faculty offices and seminar rooms in the College, faculty and students meet together in many less formal gatherings — arranged by both, or spontaneous 'happenings' — in Dons' apartments, common rooms, or in the Dining Hall (originally a hay loft!).

Catharine Parr Traill College

Principal

Mrs. Nancy Sherouse, B.A.

Senior Tutor Peter Watson, M.A., PH.D.
Senior Don Miss Janet P. Bews, M.A., PH.D.

Catharine Parr Traill College, named in honour of a noted botanist, author and early settler in the Peterborough area, is the second of the town colleges. Formerly a women's college, Traill adopted a coeducational composition in September 1969.

Traill College, situated in the middle of Peterborough in a quiet residential area overlooking the city, enjoys all the advantages of a central town location. The College has a self-contained campus with a number of fine old homes remodelled for college purposes, as well as a modern residential and teaching wing. Each building accommodates resident students in study bedrooms while also offering academic and recreational facilities. In nearly all the buildings, accommodation is provided for members of faculty, both single and married, who act as resident dons. Many members of the academic staff who are Fellows of the College teach in tutorial offices and seminar rooms located in the Traill complex.

Non-resident students, many of whom are associated with the college because they prefer the convenience of city living, are active contributors to all aspects of college life. They use the college dining room, the Trend (snack bar) and the various common rooms, all of which have proved to be excellent settings for stimulating, informal discussions and debates. The College library collection is available to all members of Traill. The tennis court, which doubles as a skating rink in the winter, also receives considerable use.

Champlain College

Master

W.D. Heeney, B.A., B.D., D.PHIL.

Senior Tutor B.L. Beach, M.A., PH.D.; *Vice-Master* C.M. Greene, A.M., PH.D.; *Senior Don* D.R. Morrison, M.A., D.PHIL.; *Assistant to the Master* H.A. Arthur, B.A.

Champlain College, the name of which honours the great explorer and founder of New France, lies on the banks of the Otonabee River near the heart of the Nassau campus. The College, founded in 1966, is a men's college with a membership of about 500 undergraduates and 45 faculty Fellows. It has residential accommodation for 209 persons, and dining library, common room and recreation facilities for all its members. The College endeavours to provide for its members a rich and stimulating intellectual environment. Through the Champlain College Society it undertakes an active program each year of visits from leading scholars and public figures, who take part in classes and informal discussion with students of the College beyond the regular curriculum. There is, in addition, a growing program of other College activities of many kinds.

The College buildings, designed by the Master Architect of the University, Ronald J. Thom, are distinguished both in style and utility, and seek to enhance the experience of university life. The staircase plan in the two residential courts and the single study bedrooms give ample opportunity both for study and a full college life. Tutorial offices for many of the Fellows of the College, accommodation for both single and married dons, and seminar rooms are interspersed through the residential courts.

Lady Eaton College

Principal

Mrs. Marjory Seeley, B.A., A.M.

Senior Tutor G.F. Hamilton, B.A.SC., M.A., PH.D., *Senior Don* Gordon Macdonald, B.A.; *Assistant to the Principal* Mrs. Kathryn Campbell, B.A.

Lady Eaton College is the fourth college within the University and the second college on the Nassau site. Named in honour of Flora McCrea Eaton, a native of Omersee and one of the original sponsors of the University, the College provides a range of attractive facilities designed to encourage academic and social interchange for a community of 450 within the context of a residential teaching college.

The College buildings have attractive study bedrooms for 240 women, as well as apartments for a number of faculty members and administrative officers who live in college as residential dons. Many Fellows have their tutorial offices in the College. Teaching takes place in these offices as well as in the College seminar rooms. Lecture halls are located in other buildings on the campus and students from all colleges meet together in lectures and tutorials.

Non-resident members of the College living at home or in lodgings in Peterborough are encouraged to participate in college activities and to use common rooms, music listening and music practice rooms, snack bar and browsing and reading rooms. The dining hall, a spacious and colourful room with small tables, has a warm and friendly atmosphere. Special meetings, concerts and dances are frequently held in the dining hall. Lady Eaton presented her library and a distinctive collection of Eskimo Art to the College. Though most of the books are in general circulation at the Bata Library, a distinctive collection of the books and the Eskimo sculptures have a permanent home in the College.

The student government organizes and sponsors many College events in which students and faculty participate. One such event is the publication of the College newspaper Eaton's Catalogue. Fellows and students also serve on a number of joint committees which contribute to activities within the College. In addition, many members of the College join in University and community programs.

Library

Librarian and Associate Professor of Bibliography J.D.P. Martin, B.A., B.L.S.

Assistant Librarian (Admin.) Bruce Cossar, B.A., M.L.S.; *Consultant to the Librarian on Canadiana* E.C. Guillet, B.A., M.A., LL.D.; *Principal Cataloguer* Miss H.E. Kelley, B.A., B.L.S.; *Reference and Circulation Librarian* Miss M.E. Hargrove, B.H.Sc., B.L.S.; *Acquisitions Librarian* J.A. Wiseman, A.L.A.; *Assistant Acquisitions Librarian* Mrs. D. McCalla, B.A., B.L.S.; *Assistant Circulation Librarian* Mrs. D.A. McNeil, B.A., B.L.S.; *Assistant Reference Librarian* W.D.M. Robinson, B.A., B.L.S.; *Junior Cataloguers* Miss S.D. Dahm, B.A., B.L.S., Miss A.L. Taylor, B.A., M.L.S.; *Map Librarian* D.R. Weismiller, B.A., B.L.S.; *Archivist* K.W. Johnson, B.A.

The University's new Thomas J. Bata Library is adjacent to the University Court and is the focal point of the Nassau campus. Four storeys high, there is room for more than 370,000 volumes and 800 readers. Bright, spacious and air-conditioned, it provides ideal study and research facilities for all student and staff requirements.



The building also houses the Audio-Visual Centre and, until the space is required for library purposes, a number of administrative and faculty offices.

By September 1971 the Library will contain a collection of some 172,000 volumes, 8,000 microforms, and more than 1,500 periodical subscriptions. Approximately 22,000 volumes are added each year. Nearly all the material is available on open shelves and all members of the University are free to browse through the entire collection. Student use of the Library has been very extensive, with one of the highest per capita circulation rates in Canada.

A number of special collections have been formed and, to support the University's interest in Canadian studies, the Library has concentrated on the acquisition of Canadiana. This development has been augmented by such gifts as the G. M. Douglas Arctic collection, the Perkins Bull collection of prints, the Racey collection of newspaper cartoons, and the Floyd Chalmers collection of Canadian Explorations. The local collection of materials relating to the Trent Valley has been enriched by the acquisition of family and institutional papers and a wide variety of other archival materials.

The Trent University Library of Religion, incorporating the Bishop Webster Collection, provides printed source material for scholars in religion, philosophy, history and related subjects. In support of the fine arts, the Robert Markon Foundation has established an art book collection. An extensive map library is being developed at Rubidge Hall which is the centre for the University's Geography and Anthropology Departments. The Library supports university research activities through its Inter-Library Loans system, through which materials can be borrowed from North American and European sources. The Inter-University Transit System, combining telex communications and a daily courier service, expedites the delivery of materials between university libraries of Ontario and Quebec.

The Bata Library is approved by the federal government as a selective depository for Canadian Government documents, and a considerable number of United States, United Nations and British documents are received by subscription. The development of a Government Documents Room is one of the major features of the new library.

Admission and Registration

Admission Requirements

1. Normal requirements

In order to be eligible for admission to Trent University an applicant is required to achieve standing at a level acceptable to the University in a full Grade 13 program of studies or equivalent. Because of the diversity of programs offered in secondary schools in Ontario, a full program is defined as that which is deemed by the school principal satisfactory for the purpose of granting an Honours Graduation Diploma.

No minimum number of years taken to achieve this standing is specified. Applicants who have spent more than five years in secondary school may be required to present a higher level of achievement.

With the exception of some language programs there are no specified subject requirements for admission to Arts programs. Applicants to Science programs are advised to consult the Grade 13 requirements of individual disciplines as shown in the "Courses of Study" section.

In lieu of Ontario Grade 13 Music, standing in one of the following examinations of the Royal Conservatory of Music of Toronto or equivalent is accepted: 1) Grade 8 Practical with Grade 2 Theory; 2) Grade 4 Theory. If the R.C.M.T. or equivalent examinations are offered, candidates must have the required overall average for the course sought on the academic credits offered. R.C.M.T. or equivalent examination marks are not included in the calculation of the overall average.

2. Exceptions to the Normal Requirements

The University is prepared to consider other candidates, who, while failing to meet the regular requirements, can satisfy the University that they are likely to be successful in university work. Maturity and motivation will be taken into account. The Admissions Committee may require the candidate to present himself for an interview. Any candidate who wishes to apply for admission and who does not possess the normal admission requirements should write to the Director of Admissions outlining his academic qualifications, his experience and the grounds on which he bases his request for admission. Such candidates may be admitted outright or to probationary status for one academic session.

Early application is most desirable in this case as applications will not normally be accepted later than eight weeks prior to the commencement of an academic session.

3. Equivalents to Ontario Grade 13

Alberta, Manitoba, Nova Scotia, Saskatchewan – Grade 12

British Columbia – First Year university

New Brunswick – Grade 13 or First Year university

Newfoundland – First Year, Memorial University

Prince Edward Island – First Year, University of Prince Edward Island

Quebec – Senior High School Leaving Certificate, English Catholic Senior High School Leaving Certificate. Applications from students enrolled in C.E.G.E.P.'s are considered on individual basis.

England and Wales, West Indies, East and West Africa, Hong Kong – General Certificate of Education (or University of Hong Kong Matriculation Certificate), with a) passes in at least five subjects, two of which must be at Advanced Level; or b) passes in four subjects of which three must be at Advanced Level; or School and Higher School Certificate. (Credits on the School Certificate, and subsidiary passes on the Higher School Certificate are equated with ordinary level passes on the General Certificate of Education; principal or main subject passes on the Higher School Certificate are equated with advanced level passes on the General Certificate of Education.)

Scotland – The Scottish Leaving Certificate.

USA – First-year university credits (a minimum of 30 semester hours) from accredited institutions or successful completion of at least three courses of the Advanced Placement Program. Normally, a United States High School Graduation Diploma is not sufficient for admission, but the University invites applications from superior students who have graduated from schools of recognized excellence. Applicants are required to submit College Entrance Examination Board scores.

Students from areas other than those listed above should submit full details and available certificates to the Director of Admissions for evaluation.

Possession of the minimum admission requirements does not in itself guarantee admission.

Admission Procedures

4. Special Requirements

- a) Candidates from areas where English is not a common language will be required to provide evidence of a knowledge of English sufficient to enable them to profit from their university studies.
- b) Candidates wishing to study Chemistry, French, Latin, Mathematics or Physics at the University should have Ontario Grade 13, or equivalent standing in that subject.
- c) Candidates who propose to proceed to another university for studies in Medicine or Dentistry should consult the calendar of the university in which they are interested, and this calendar's section on Pre-Professional Studies for details about the entrance requirements for faculties of Medicine and Dentistry in Ontario.

5. Admission with Advanced Standing:

The University will consider applications from students from other universities for admission with advanced standing. Applicants for advanced standing should consult the Academic Programs and Standings Required section of the Calendar. Applicants for advanced standing must send with the application their secondary school Principal's Confidential Report showing the grades achieved in Grade 13 and must arrange for the forwarding of official transcripts of their university record to the Director of Admissions of Trent University.

6. Part-Time Credit Studies:

Candidates considering a program of part-time credit studies should consult the Academic Program and Academic Standing section of this Calendar and the Part-Time studies section.

7. Debarment

The University reserves the right to refuse admission to any candidate and to refuse re-admission if it becomes apparent that a student is not profiting from University studies. Applicants should also consult the Academic Programs and Standings required section of the Calendar.

8. Application Fee

Applicants for admission to this University who are not residents of Canada or who have obtained standing in educational jurisdictions beyond Canada are required to pay a fee of \$10 upon filing an application.

Students from the Ontario school system should apply to Trent University on the forms developed by the Ontario Universities' Council on Admissions for General Application for Admission to University. These forms are available through the secondary schools and should be filled out according to accompanying instructions.

By agreement between the universities, candidates notified of acceptance by a university may not be required to make formal acceptance until June 1, 1971. At this time Trent University will require a \$50 deposit against tuition fees. Such deposits will not normally be refundable, but the University will consider requests for refunds made by accepted candidates who present a valid petition to the Registrar.

Because all full-time students in the University are members of a college, every applicant to the University should complete a college application form which may be obtained from the Registrar's Office.

Candidates for admission from outside Ontario, or who are not currently in Grade 13 or are recent graduates, may obtain application forms from the Registrar. Such candidates, including those from Ontario who wrote Grade 13 examinations before 1964, must submit Grade 13, or equivalent, certificates or certified copies of these, showing their standing in each subject. Certificates are not required for the Ontario Grade 13 examinations of 1964 and later years.

Candidates for admission may be asked to attend an interview with the Admissions Committee. Each admitted candidate will receive a medical form from the University which should be completed, preferably by the candidate's regular physician, and sent to the University Health Service before registration. Each candidate for admission will be notified of the University's decision concerning his or her application as early as possible, within the limits of the inter-university agreements cited above.

Scholarships, Prizes and Student Awards

Scholarships

Registration

Entering students who have been offered and have accepted admission to the University will register in person during the Introductory Seminar. The College Admissions Committee will make every effort to meet the wishes of students for particular college affiliation but cannot guarantee to meet all requests.

Registration is complete when an undergraduate has been informed of his admission by the University, has met with the Head of his college, has paid at least the first instalment of his fees, has visited the Health Service, and has completed registration in consultation with his supervisor of studies in an approved program of studies. During the Introductory Seminar, first-year students have the opportunity to sample first-year courses before selecting the five they will pursue. A fee of \$10 may be charged to those registering late.

Returning students are also required to place a \$50 deposit against tuition fees before July 15 in order to guarantee a place in the University.



Trent University has a generous scholarship program designed to reflect its insistence on high standards and to reward and encourage its leading students.

Through the generosity of private donors, about 25 scholarships have been endowed; these scholarships will be awarded to students entering the University and during the course of their studies. In addition, the University awards a generous number of scholarships to students entering the University with high standing.

Since all students with high standing will automatically be considered, no separate application for scholarships awarded by the University is necessary.

All University scholarships may be held in conjunction with other scholarships awarded by external agencies when their conditions permit, up to a normal maximum of \$1,655 in 1971-72. In order to be considered for scholarships, a student entering first year normally must have undertaken at least five of the seven credits required for admission during the current academic year. No student applying for admission to the University after August 1 will normally be considered for a scholarship.

The University endeavours to guarantee all scholarship holders, including those from the Peterborough area, places in residence if they wish them.

The Champlain Scholarships

Champlain Scholarships are available for students of exceptionally high academic achievement and promise, whether entering the University or in course. Each scholarship has an annual value of \$1,655 for students living in residence and of \$1,000 for non-residents, and will be renewed each year at full value so long as the holder's work is of high standard.

Ten Champlain Scholarships are available. Five are open to all students. In addition, one Champlain Scholarship is available to students in each of the following categories:

- a) students resident in British Columbia, Alberta, Saskatchewan or Manitoba;
- b) students resident in Ontario;
- c) French-speaking Canadians;
- d) students resident in Quebec or one of the four Atlantic Provinces;
- e) students resident in another country.

Holders are given the title of Champlain Scholar.

The Peterborough Examiner Scholarship

The scholarship, the gift of Peterborough Examiner Co. Ltd., of the value of \$1,200 for one year, is available to an outstanding student entering first or a higher year and living in residence. The holder is given the title of Peterborough Examiner Scholar.

The Trent University Scholarships

Trent University Scholarships of the maximum value of \$150 for one year are available to students of high academic achievement entering first or higher years in the University.

The Bata Scholarship

The scholarship, the gift of Thomas J. Bata of Batawa, Ont., one of the original honorary sponsors of the University and a member of the Board of Governors, is of the value of \$550 for one year. The holder is given the title of Bata Scholar.

The Sylvia Cherney Scholarship

The Sylvia Cherney scholarship, the gift of Harry Cherney, and of Brian Cherney and Lawrence Cherney, is named in memory of Sylvia Cherney and is available to in-course students majoring in English Literature with the aim of encouraging promise and interest in the study of drama. The Cherney Scholarship is an annual award to meet tuition fees. The holder is given the title of Cherney Scholar.

The Roscoe F. Downey Scholarships

Two scholarships, the gift of the late Roscoe F. Downey of Peterborough, each of the value of \$100 for one year, are available to entering students, one from Peterborough County and one from Victoria County. Holders are given the title of Roscoe F. Downey Scholar.

The Reginald R. Faryon Scholarships

These scholarships, the gift of the Quaker Oats Company of Canada, are named in memory of the late Reginald R. Faryon an active member of the founding board of Trent University and a former president of the company. Each Faryon Scholarship is of the value of \$400 for one year. Holders are given the title of Faryon Scholar.

The Rufus Gibbs Scholarships

These scholarships, the gift of the late Rufus C. Gibbs, each of the value of \$500 for one year, are available for annual award to students in all years, on the basis of academic standing, all-round achievement and character. Holders are given the title of Rufus Gibbs Scholar.

The Joseph Ernest Goodhead Scholarship

This scholarship, the gift of an anonymous donor, of the value of \$100, is awarded annually for excellence in the study of Biology.

The Howson Scholarship

The George Henry and Jane Laing Howson Scholarship. The scholarship, the gift of Miss A. Howson and Mrs. M.H. Simpson, is named in memory of their late parents. Of the value of \$350 for one year, the scholarship is available to a student with high academic standing who is proceeding to the degree of Bachelor of Arts. The holder is given the title of Howson Scholar.

The Francis Dean Kerr Scholarship

The scholarship, the gift of the late Mrs. F.D. Kerrof Peterborough, is named in honour of her late husband who was one of the original honorary sponsors of the University, and is of the value of \$550 for one year. The holder is given the title of Francis Dean Kerr Scholar.

The William Allan Newell Scholarship

The scholarship, the gift of Judson Newell of Prescott, Ont., is named in honour of his father, the chairman and founder of the Newell Manufacturing Co. Ltd. Of the value of \$550 for one year, it is available to an entering student proceeding to the degree of Bachelor of Science. The holder is given the title of William Allan Newell Scholar.

The Katherine E. Scott Scholarships

Two scholarships, the gift of Dr. C.M. Scott of Peterborough, are named in honour of his late wife. Each scholarship is of the value of \$550 for one year. Holders are given the title of Katherine E. Scott Scholar.

The H. Clare Sootheran Scholarship

The gift of the late H. Clare Sootheran, a citizen of Peterborough, this \$250 annual scholarship is awarded for excellence in the Faculty of Arts. The holder is given the title of Sootheran Scholar.

Externally awarded scholarships

A number of scholarships (and bursaries) are awarded by bodies outside the University. A number of corporations, for instance, have special programs for dependents of their employees. Students should consult their guidance counsellors concerning these awards.

Particular attention is drawn to the Ontario Scholarships, which are awarded by the Province of Ontario to outstanding Ontario students. Information and application forms may be obtained from school principals.



Scholars 1970-71

Champlain Scholars

Miss B.A. Blackwell, Scarborough
J.F. Butler, Peterborough
M.J. Evans, Guelph
Miss C.J. Good, Kingston
Miss M.R. King, Guelph
J.D. Poff, North Bay
Miss T.A. Reilly, Toronto
Miss K.E. Teschke, Ottawa
Miss K.A. Warden, Saskatoon
Miss J.M. Webb, Toronto

University Scholars

N.J. Abbott, Cobourg
E.M. Arundell, Corunna
Miss B.K. Baker, Maple
Miss F.E. Barker, Islington
Miss K.A. Barker, Niagara Falls
B.G.W. Barrett, Montreal, Que.
J.D.A. Beattie, Toronto
Miss M.G. Burd, London
Miss L.A. Burgess, Port Hope
T.N. Burrell, Don Mills
Miss S.A. Carter, Peterborough
D. Carter-Edwards, Peterborough
Mrs. K.G. Carter-Edwards, Peterborough
Miss D. Carvill, Saint John, N.B.
Miss K.T.M. Cheng, Hong Kong
H.G.B. Clarke, Peterborough
Miss P.I. Colvin, Ottawa
M.H. Coulthard, Peterborough
Miss C.R. Craig, Don Mills
Miss I.L. Curwood, Ajax
Miss N.D. Day, Creemore
Miss K.S. Devitt, Brampton
Miss S.J. Dexter, Kenora
J.D. Dines, Omemee
J.R. Duffus, Kenora
N.A. Ebrahim, Mtwara, Tanzania
J.C. Edey, Cornwall
Miss N.J. Foreman, Pembroke
Miss P.M. Frair, Picton
Miss M.T.A. Gainey, Peterborough

Miss R.E. Garrod, Peterborough
 Miss A.L. Godden, Beaconsfield, Que.
 N.B. Grandfield, Brantford
 F.G. Haley, Peterborough
 Miss P.G. Halladay, Toronto
 Miss D.L. Havery, Picton
 G.W. Hay, Campbellford
 Miss K.E. Jamieson, Ottawa
 C.H. Jeanes, St. Thomas
 M.J. Jenkin, Newmarket
 Mrs. L.M. Jones, Peterborough
 Miss J.L. Jury, Ottawa
 C.E. Kerr, Ottawa
 F.J. Kirley, Little Britain
 Mrs. H.J. Kitney, Peterborough
 Miss B.E. Levasseur, Peterborough
 Miss M.K. Liesmer, North Bay
 R.G. Lunau, Barrie
 G.E. Madden, Thornhill
 Miss C.E. MacNaughton, Brockville
 Miss G.E. Mather, Stoney Creek
 G.B. McCleary, Toronto
 Miss M.J. McLeish, Gloucester
 I.G. McLeod, Valois, Que.
 G.D. Meanwell, Windsor
 Miss M.J.R. Mickalski, London
 Miss M.L.C. Miller, Lindsay
 P.G.C. Moore, Peterborough
 Miss M.J. Norris, Port Credit
 Miss S.E. O'Riordan, Madoc
 D.W.D. Owen, Toronto
 Miss L.E. Robertson, Edmonton
 Miss R.E. Rosevear, Smiths Falls
 Miss L.C. Ross, Toronto
 Miss S. Ryan, Toronto
 S.L. Sandler, King City
 M.D. Santopinto, Calgary
 Miss D.S. Scythes, Don Mills
 Miss P.C. Sklenar, London
 Miss C.E. Smith, Toronto
 S.G. Snell, Port Hope
 D.C. Stevens, Mississauga
 R.J. Taylor, Peterborough
 D.W. Tight, Milton
 H.C.G. Underwood, Toronto

Miss B.E. Ward, Ottawa
 Miss H.A. Weir, Peterborough
 Miss P.R. Willoughby, Kingston

Peterborough Examiner Scholar
 P.G. Hartwick, Ottawa

Faryon Scholars
 S. Farthing, Pointe Claire, Que.
 Miss D.L. Gauthier, Montreal, Que.
 K.E. Inwood, Brockville
 Miss L.C. Langford, Ottawa
 Mrs. S.L. Rexe, Peterborough
 Miss C.S. Rodgers, St. Catharines
 J.R. Salmon, Ottawa
 Mrs. S.J. Sutherland, Norwood
 R.D. Wood, Peterborough
 Miss D.A. Zendrowski, London

Rufus Gibbs Scholars
 Miss D.L. Crowther, Fredericton, N.B.
 I.W. Gilmour, Toronto
 R.G. Glossop, Ottawa
 R.B. Joyce, Deep River
 R.J.C. McNamara, Peterborough
 C.L. Taylor, Erinsville
 J.E. Thomas, Toronto

Bata Scholar
 J.R. Upton, Lindsay

Francis Dean Kerr Scholars
 G.H. Cubitt, Oshawa
 Miss W.J. Foster Hillier

Katherine E. Scott Scholars
 Miss N.L. Holts, Pembroke
 Miss C.A. Kennedy, Islington
 Miss W.H. Mak, Hong Kong
 Miss K.E. Steeper, North Bay
 Miss C.J. Wilson, Oshawa

Sootheran Scholars
 B.E. Gale, Ottawa
 T.B. Jackman, Peterborough
 Miss B.A. Smith, Paris

Howson Scholar
 Miss W.E. Cuthbertson, Don Mills

Roscoe F. Downey Scholars
 J.D. Dines, Omemee
 Miss R.E. Garrod, Peterborough

William Allan Newell Scholar
 D.A. McCallum, Westmount, Que.

Prizes

Consul General's Prizes in French

These prizes, the gift of the Consul General of France, are awarded annually to the leading undergraduates in French studies within the University.

Ambassador of Switzerland Prizes in French and German

The prizes, the gift of the Ambassador of Switzerland, are awarded annually to the undergraduates who have obtained the highest standings in the French and German languages in their graduating year.

Department of Biology Prizes

The prizes are awarded to students who show excellence in the study of Biology in first or higher years.

Chemical Institute of Canada (Peterborough Section) Prize

This prize is awarded to a first-year student who has shown excellence in the field of General Chemistry.

Department of English Literature Prize

This prize, the gift of the Department of English Literature, is awarded to the best student entering the Honours Program in English Literature.

Gadfly Prize

This prize, the gift of the academic staff in Philosophy, is available for award annually to the leading undergraduate in Philosophy entering his or her graduating year. The prize commemorates Socrates' description of himself as one who rouses and reproves the society in which he lives just as a gadfly awakens a sluggish horse.

Honourable Leslie Frost Prize

This prize, the gift of the Chancellor of the University, the Hon. Leslie M. Frost, P.C., Prime Minister of Ontario from 1949 to 1962 and Member of the Legislative Assembly of Ontario for Victoria from 1937 to 1963, is awarded annually to the leading undergraduate in the first-year course in History.

Honourable George S. Henry Prize

This prize, in memory of the Hon. George S. Henry, Prime Minister of Ontario from 1930 to 1934, and Member of the Legislative Assembly of Ontario for East

York from 1913 to 1943, is awarded annually to the leading undergraduate in the first year course in Politics.

Midwives' Prize

This prize is the gift of the three members of the Universities Liaison Committee who assisted at the birth of Trent University, and who did so much to make the birth a happy one: Professor J.M. Blackburn, then of Queen's University; Dean Frank Stiling, of the University of Western Ontario; and the late Dr. M.St.A. Woodside, former vice-president of the University of Toronto. Professor Blackburn, Dean Stiling and Dr. Woodside were named by the heads of their universities and the Founding Board of Trent University in its early years. The prize is awarded annually to the undergraduate with the highest overall standing in the first year.

Peterborough Professional Engineers Wives' Association Prize

This prize, the gift of the association, is awarded to an undergraduate who shows excellence in the second-year courses in Physics or Chemistry.

Department of Psychology Prizes

These prizes, a gift of the Department of Psychology, are awarded annually to outstanding students in Psychology.

Victor T. Ridley Memorial Prize

This prize, the gift of Mrs. F. Millard in memory of the late Victor T. Ridley of Peterborough, is awarded to the leading undergraduate in the first year Mathematics.

Honourable Sidney Smith Prize

This prize is named in honour of the Hon. Sidney Smith, Member of the Legislative Assembly of the United Province of Canada for the West Riding of Northumberland from 1854 to 1861, Postmaster General of the United Province of Canada from 1858 to 1862, and elected Member of the Legislative Council for the United Province of Canada for the Trent Division from 1861 to 1863. It is the gift of the Hon. S. Bruce Smith, Chief Justice of Alberta, and of Muriel Turner and H.G.H. Smith, Q.C., of Winnipeg, and is awarded annually to the leading undergraduate majoring in Politics and History in the second year.

Recipients of University Prizes 1969-70

Ambassador of Switzerland Prizes in French and German

R.B. Joyce, Deep River
Miss S.A. Kouri, Peterborough
Miss M.F. McIlroy, Peterborough
Miss E.E. Porteous, Cavan
Miss J.C. Porter, Sarnia
Miss P.C. Sklenar, London

Department of Biology Prizes

L. DeMarch, Peterborough
Miss M.R. King, Guelph
Miss H. Knezevich, Port Arthur

Chemical Institute of Canada (Peterborough Section) Prize
Miss W.H. Mak, Hong Kong

Department of English Literature Prize
Miss M.L.G. Miller, Lindsay

Department of French Studies Prize
J.D. Poff, North Bay

Gadfly Prize
D.W.D. Owen, Toronto

Governor General's Medal
Miss B.J. Finlayson, Ottawa

Honourable Leslie Frost Prize
Mrs. I. Ip, Peterborough

Honourable George S. Henry Prize
I.G. McLeod, Valois, Quebec

Prize in Indian-Eskimo Studies
R.E. Salter, Oshawa

Midwives' Prize
Miss M.R. King, Guelph

Peterborough Professional Engineers Wives' Association Prize
C.L. Taylor, Erinsville

Victor T. Ridley Memorial Prize
Miss M.C. Mak, Hong Kong

Honourable Sidney Smith Prize
D.L. Todd, Whitby

College Prizes

Catharine Parr Traill College Scholars' Prize
Miss S.J. Atwood, Camp Petawawa
Miss B.J. Finlayson, Ottawa
Miss N.L. Holts, Pembroke
A.E. Lugtigheid, Peterborough
Miss E.E. Porteous, Cavan

Peter Robinson College Dons' Award
Miss M.G. Robinson, London

Peter Robinson College Fellows' Prize
Mrs. S.L. Rexe, Peterborough

Champlain College Dons' Award
R.R. Maddocks, Belleville

Champlain College Master's Award
P.G. Hartwick, Ottawa

Champlain College Fellows' Prize
R.I. Inglis, Ottawa

Lady Eaton College Fellows' Prize
Miss A.E.M. Delaney, Midland

Lady Eaton College Dons' Award
Miss K.J. Hague, Toronto

Bursaries

Each year a sum of money is available for bursary assistance to students who are currently enrolled at Trent University. Information is available from the Director of Student Aid.

Philip Black Award

These awards are the gift of Isadore and Morris Black of Peterborough in memory of their father, Philip Black – the first Rabbi in Peterborough. Value: \$50.

Reginald R. Faryon Bursary

The award is the gift of the Peterborough Branch of B'nai B'rith in memory of Reginald R. Faryon. Value: \$50.

Peterborough Chapter of Hadassah Bursary

The award is the gift of the Peterborough Chapter of Hadassah. Value: \$100.

Agneta Holt Award

The award is the gift of the University Women's Club of Peterborough as a memorial to the late Mrs. Agneta Holt.

Women's Auxiliary Branch No. 575 of Royal Canadian Legion, Bridgenorth, Bursary

The award is the gift of the Women's Auxiliary Branch No. 575 of the Royal Canadian Legion, Bridgenorth, and is for award to a son or daughter of a veteran residing in Smith Township.

Robert F. Kennedy Bursary

The award is the gift of Howard Meredith of Otonabee Township, in memory of Senator Robert F. Kennedy and the ideals of justice, humanitarianism, and excellence which he cherished and exemplified. Value: \$50.

'In-course' Bursaries of the Atkinson Charitable Foundation

These bursaries may be awarded to meritorious Ontario undergraduates in second and higher years. Information is available from the Director of Student Aid.

The Interprovincial Pipe Line Company Bursary Fund

Established by the Interprovincial Pipe Line Company. These bursaries may be awarded to deserving undergraduates in second or higher years.

A.T.A. Trucking Industry Educational Foundation Bursary Fund

Established by the Automotive Transport Association of Ontario. These bursaries may be awarded to deserving students who would be unable to continue their studies without financial assistance.

Ontario Student Awards

The Province of Ontario and the Government of Canada provide a program of grants and loans to university students through the Province of Ontario Student Awards Program. This program is not based on academic standing but is related to the established need of the student in the individual year of the University. Awards are made by the Department of University Affairs, after assessment of need, and are divided between provincial grants and Canada Student Loans according to a formula established by the government. Students may obtain details of this program through school officials or from the Director of Student Aid, Trent University, Peterborough.

Students from outside Ontario who need financial assistance in university are strongly urged to consult with officials in their schools about available Provincial loan and bursary assistance. The University has limited bursary funds to assist needy students not eligible for government assistance.

Academic Programs and Standings Required

The Faculty of Arts and Science of the University offers at the undergraduate level both an Ordinary program leading in three years to the degrees of Bachelor of Arts and Bachelor of Science, and an Honours program leading in four years to these same degrees with Honours. The degree programs are designed to be flexible so that the particular needs and interests of individual students may be satisfied. Each student chooses his program in consultation with his supervisor of studies or his academic advisor, who seeks to ensure that the program is coherent.

Assessment of Performance

Work done during term and in the reading periods, any mid-year or other examinations, and any final examinations will be considered in determining an undergraduate's final standing in each course.

At the beginning of each year students will be informed of the method of assessment of achievement in each course. Students' attention will also be directed to the provisional syllabus at the start of each year. This syllabus may be subject to some modification as the work of the year progresses.

Vacation Reading and Study

The value of the academic program to the student depends to a considerable extent on reading and study done during the vacations.

Residential Reading and Laboratory Weeks

During residential reading and laboratory weeks no formal class meetings or examinations are held, but students continue their studies at the University, under the guidance of their tutors. The library and laboratories are open to students during these periods.

Grades

There are four passing grades: A, B, C, D, and one failing grade: F. Undergraduates are informed of their standing in each course. There are no supplemental examinations.

Aegrotat Standing

Petitions for special consideration because of sickness or misfortune at any time during the academic session should be sent to the Registrar as soon as possible, together with medical certificates or other evidence. The University

may grant aegrotat standing, or permission to write special examinations, but because aegrotat standing must be based on the achievements of the student throughout the whole of the academic year, it is not appropriate to request such standing as a result of prolonged illness. (See also Withdrawal section below.)

Unsatisfactory Work

The University may, at any time, ask any student whose work is unsatisfactory to withdraw from the University.

Withdrawal

With the exception of half-courses completed before Christmas, any course confirmed by November 1 may be dropped prior to March 1 without academic penalty. A student dropping a course on March 1 or thereafter shall be deemed to have failed that course.

Students withdrawing from a half-course, conducted during half of the year, are advised to consult the regulations governing half-courses as outlined on Page 35.

A student withdrawing either from a course or from the University should consult his supervisor of studies and his College head (or Part-time Studies Office if applicable) and must notify the College head (or Part-time Studies Office) in writing.

If written notice of withdrawal is not received the student may be charged with an academic failure.

If a student is ill for a period after March 1 and sends the Registrar medical certificates or other appropriate evidence, he may be granted permission to withdraw without penalty.

Rustication and Debarment

The case of any student who has failed two courses will be automatically reviewed by the Academic Standing and Promotion Committee: and that student's case will be reviewed following each subsequent failure. The Committee has the power to decide upon rustication and debarment, subject always to the student's right of appeal to the Special Appeals Committee.

In general, rustication for a year will result from any one of the following circumstances (amongst others):
a) three failures in the first five courses, the second five courses, or the third five courses attempted;
b) five failures in total;

c) failure to achieve at least one grade of C or better in a sequence of five courses attempted.

Debarment

Two further failures on return from such a year of rustication will lead to debarment from the University, and in this case the student will not be eligible for re-admission for a minimum of three years.

In interpreting these rules, a transfer student's record at the other university will be taken into account.

Transfer of Credits

Students are normally required to complete half of their degree program at Trent University. Students who transfer from another university will be granted advanced standing on an individual course basis for courses which are directly comparable to courses offered at Trent. Unassigned credit up to a maximum of five courses may be granted for courses which are equal in standard but not comparable in content to courses offered at this University. Students transferring credits will be governed by promotion regulations as outlined in this Calendar under the Ordinary Program section.

Study at Other Universities

A student other than a transfer student may be permitted by the individual departments, and/or the Undergraduate Studies Committee, to take courses elsewhere for credit toward a degree program. The maximum number of whole courses for which credit may normally be given is five in either an Ordinary or Honours program. It should be noted that the last five courses offered by a candidate for a degree are normally to be completed at Trent.

Study at Foreign Universities

Students, particularly in modern languages, wishing to take a full year of study at a foreign university or in French Canada must have the plan of study approved by the department(s) of major concentration before a leave will be granted. Courses in such programs should be roughly comparable to those which would have been taken had the year been done at Trent.

Normally, this year of study abroad should constitute the third year of an Honours program. Under special circumstances, and at the recommendation of the

department(s) concerned, a student may be permitted to undertake the fourth or Honours year abroad, and so qualify for a Trent Honours degree.

A registration and supervision fee of \$50 will be charged students granted leave to study abroad for one year.

Appeals

A student may appeal the assessment of term assignments and tests during the course of the year. Such appeals should be directed to the course instructor and subsequently, if necessary, to the Chairman of the Department.

Final grades in individual courses will be reviewed by the department concerned and submitted to the Registrar, countersigned by the Department Chairman. All failing grades will receive special scrutiny by a departmental committee. Before final release, the grades of each undergraduate will be reviewed by a committee of Senate. Every student has the right to appeal final standing in any course, regardless of grade, but in considering such appeals grades given for term work in the course of the year will not normally be reassessed. All appeals should be made in writing to the Registrar before July 15. A fee of \$15 will be charged for the handling of an appeal, refundable if the grade is raised.

Students who believe that the application of University regulations has worked undue hardship on them may appeal to the Special Appeals Committee. Such appeals should be made in writing to the Chairman of the Special Appeals Committee, normally before July 15. All decisions of the Special Appeals Committee are final and take effect when issued.

Students wishing to take a program not outlined in this Calendar may, after consultation with their supervisor of studies, make a petition to the Chairman of the Undergraduate Studies Committee.

Course Credit

Students retain credit for every course and every half-course successfully completed. Two half-courses count as the equivalent of one full course, and the student's grade in a half-course will be announced as soon as it is known. The transcript will show each course and half-course and the grade achieved.

Ordinary Program

Course Sequence and Load

The normal load in a full winter session is considered to be five courses for credit, and students will be permitted to take additional courses only with approval of their supervisor of studies. It is expected that most students will take five *one-hundred* series courses, followed by five *two-hundred* series and then by five *three-hundred* series courses. A student who wishes to include more than two out-of-sequence courses in any series of five, should consult his supervisor of studies. In particular, if it is desired to take senior courses earlier in the sequence, the student should consult tutors from the departments involved to ensure departmental permission, and that no problem will arise concerning prerequisite status.

Students are permitted to register in a maximum of two courses (for credit) in any particular summer session, but it is strongly advised that not more than one such course should be attempted.

Any student who wishes to enrol in six regular courses and two summer school courses in the same year whether the summer session immediately precedes or follows the winter session, is required to apply, through his supervisor, to the Undergraduate Studies Committee. The application must be accompanied by a supporting statement from the chairman of the department in which the student is majoring; or, in the case of a freshman student, by the Chairman of the Committee on Admissions.

Program Changes

Course changes must be made on form available from supervisor of studies, or in the case of part-time students from the Part-Time studies office.

A student wishing to change a course must have this form initialled by the instructor of the course which is being dropped, then by the instructor of the course being added and then endorsed by the Supervisor of Studies, who will forward it to the Registrar's Office.

A student wishing to drop a course must use the same form and have it initialled by the instructor of the course which is being dropped and endorsed by the Supervisor of Studies, who will forward it to the Registrar's Office.

Course changes after the Friday before Thanksgiving are subject to a fee of \$10. No course changes are permitted after November 1.

An Ordinary Degree is awarded upon the successful completion of fifteen courses, or the equivalent where special arrangements have been approved, subject to qualifications a), b) and c) below:

a) Of the fifteen courses counted toward the Ordinary Degree not more than seven may be *one-hundred* series courses, and at least four courses in the *three-hundred* series (or equivalent) must be included. Moreover no student may count, for credit toward the Ordinary Degree, more than eight of the courses offered in any one subject;

b) For an Ordinary Degree, a student must obtain a minimum of C standing in at least twelve of the fifteen passed courses and a minimum of C in at least seven *two-hundred* or *three-hundred* series courses. A course may be repeated (for credit) only if the grade on the preceding attempt was either D or F;

c) Not more than one course with a D standing will be counted toward a major.

Undergraduates may choose to pursue a single-major, a joint-major, or a general degree program.

1. Single-Major Program

This program is designed for the student who wishes a broad education, with concentrated work in a single subject to provide a focal point of study. A student is not normally permitted to major in a particular subject, unless he has received credit, with a C grade or better, in the *one-hundred* series course of that subject. Precise requirements for a major depend on departmental recommendations and regulations, but in no case will the total number of courses for credit in the subject of the major be less than five or greater than eight. Students wishing to undertake a single-major should consult their tutors in the discipline concerned.

2. Joint-Major Program

This program is designed for students wishing to take a fairly specialized education in two subjects. A student is not normally permitted to enrol in a joint-major program, unless he has received credit, with a C standing or better, in the *one-hundred* series course in each of the disciplines concerned. Precise requirements for a joint-major depend on departmental recommendations and regulations, but in no case will the total number of courses for credit in each

Honours Program

of the subjects of the joint-major be less than five or greater than six.

Students wishing to undertake a joint-major program should consult their supervisors as well as their tutors in the two disciplines concerned.

3. General Degree Program

This program is designed for students wishing to take a broad range of courses, but without specialization in any particular discipline. Enrolment in such a program normally takes place after completion of the first five courses for credit.

Students considering the general degree programs must consult their supervisors, and work in conjunction with the co-ordinator of general degree programs as well as with tutors from the disciplines concerned to ensure that the program is cohesive, and also that prerequisites for individual courses have been met.

4. Bachelor of Science in the Ordinary Program

Students successfully completing single or joint majors in Biology, Chemistry, Mathematics or Physics will automatically qualify for a Bachelor of Science degree.

Students with joint majors involving only one of the latter four or with single or joint majors in Anthropology, Economics, Geography or Psychology may petition to receive a Bachelor of Science degree. This petition will be made on the form for Application for Graduation to the Undergraduate Studies Committee, which will consult with the department(s) concerned. Normally a single major in one of the above disciplines, without supporting courses in the other disciplines listed, or a joint-major which includes a discipline not listed above will be granted a Bachelor of Arts degree.

Honours-year programs, normally involving a single academic year of integrated study, are available to qualified students on completion of the fifteen-course Ordinary Degree program. The year may consist of a single-major, joint-major, or general degree Honours program.

1. Single-Major Honours Program

Single-major Honours programs are offered in Anthropology, Biology, Chemistry, Classical Studies, Economics, English Literature, French Studies, Geography, Hispanic Studies, History, Mathematics, Philosophy, Physics, Politics, Psychology and Sociology.

The structure of, and the individual courses to be taken in, a single-major Honours year are established by the department concerned (under the overall direction of the Academic Development Committee). The department recommends to Senate the awarding or withholding of the Honours degree at the close of the Honours year.

Students wishing to undertake a single-major Honours program should consult their supervisors and the chairman of the department concerned before making application for admission to the Undergraduate Studies Committee.

2. Joint-Major Honours Program

Joint-major Honours programs are offered by all departments offering a single-major Honours program, and by German.

The structure of, and the individual courses to be taken in, a joint-major Honours year are established by the departments concerned (under the overall direction of the Academic Development Committee). The departments concerned recommend to Senate the awarding or withholding of the Honours degree at the close of the Honours year.

Students wishing to undertake a joint-major Honours program should consult their supervisors and the chairmen of the departments concerned before making application for admission to the Undergraduate Studies Committee.

3. General Degree Program

Students considering a general degree Honours program should prepare a short statement of the work they hope to carry out during the program. This plan should be discussed with the supervisor, and then with the chairmen of the departments concerned. If agreement is reached on the program, a special advisory committee will be established to co-ordinate the program and to advise the student dur-

ing his Honours year. This committee will make recommendation to the Senate for the awarding or withholding of the Honours degree at the close of the Honours year.

Normally a student taking a general degree Honours program will be expected to complete four or five courses, at least three of which would be *four-hundred* series courses.

4. Bachelor of Science in the Honours Program

Students successfully completing an Honours program in Biology, Chemistry, Mathematics, Physics or Psychology, or any joint Honours program involving two of these subjects, will qualify automatically for a Bachelor of Science degree in the Honours program.

Students with joint Honours involving only one of the above disciplines, or with single or joint Honours in Anthropology, Economics or Geography, may petition to receive a Bachelor of Science degree. This petition will be made on the form for Application for Graduation to the Undergraduate Studies Committee, which will consult with the department(s) concerned.

Procedures for Entry to and Completion of Honours Year

Application and Admission to Honours

1. Application to enter the Honours program should normally be made during the winter term of the academic year in which the student expects to qualify for an Ordinary degree.

2. Application shall be made after consultation with the Supervisor of Studies and on a form available from the departmental chairmen, and a tentative program should be worked out and recorded at that time.

3. There is no automatic admission to the Honours program; the decision rests with the individual departments, or with the designated advisory committee in the case of a general Honours program. However, a student who does not achieve B standing or better in at least five *two-hundred* or *three-hundred* series courses, and in at least eight courses altogether during the Ordinary program, will not normally be admitted to an Honours program.

4. Acceptance in the Honours program is not final until approved by the department(s) or by the designated advisory committee in the case of a general Honours program,

after completion of qualification for an Ordinary degree. Departmental or advisory committee approval is subject to confirmation by the Undergraduate Studies Committee.

5. Admission to the Honours program is not complete until the department(s) of the major subject(s) or the designated advisory committee in the case of a general Honours program, have endorsed the program selected by the candidate. The program must be worked out in all details before Thanksgiving Day of the year in question. Alterations in an approved program require the endorsement of the departmental chairmen and of the Supervisor of Studies.

6. The Honours year is normally one year of integrated studies. Students wishing to undertake an Honours program on a part-time basis should consult the chairman of the department concerned, or the designated advisory committee in the case of a general Honours program, to establish details of the program. Ratification of such a program by the Undergraduate Studies Committee is required.

Academic Standings Required for an Honours Degree

1. Upon completion of the Honours year program, the department(s) or the designated advisory committee in the case of a general Honours program will recommend to the Committee on Academic Standing the granting, deferring or withholding of an Honours degree.

2. An Honours year may not be repeated.

3. A student may not repeat an individual Honours course, except by permission of the department(s) concerned. The designated advisory committee of a student in a General Honours program may permit the repeating of one failed course but substitution of another course will not normally be permitted.

4. All courses attempted in an Honours program will be entered on the student's transcript.

5. The description of the degree on the transcript granted a student who is unsuccessful in the attempt at an Honours year will be the same as that which would have been made at the time the student qualified for an Ordinary degree (with later date).



Courses of Study

Explanation of Course Identification

In 1970, due to the growth in number of course offerings, along with the introduction of more half courses, Trent University had to establish a new system of course numbering, and the two-digit numbers were replaced with three-digit identifications.

Generally, the first digit indicates the year in which the course is normally taken, and the second digit indicates an area of study within a discipline.

Half Course Requirements

Half courses are indicated by the suffix *a*, *b*, or *c*;

a) indicating a half course taught in the autumn term,

b) indicating a half course taught in the winter-spring terms,

c) indicating a half course taught throughout the year.

Every course attempted will be entered in the transcript and, where successful, will be given one and a half credits (full courses equal three credits). Any two half courses equals one full course for credit purposes.

Students attempting a half course with suffix *a* will write a final examination, if required, on the Saturday concluding the autumn term and will be informed of the grade achieved not later than the first day of the winter term. Students attempting more than one half course with suffix *a* are therefore warned that they may face a heavy examination load at the conclusion of the courses.

Students wishing to alter *a* and *b* half courses must do so during the first three weeks in which the course is offered.

Students withdrawing before November 1 from a half course which is conducted in the autumn will suffer no academic penalty. Students withdrawing from a half course conducted during the winter and spring terms before March 1, will suffer no academic penalty.

Final date for registration in a half course with suffix *a* is the Friday before Thanksgiving.

Final date for registration in a half course with suffix *b* is normally November 1, but in the case of students wishing to transfer between half courses with suffix *b* a later registration will be considered.

For half courses with suffix *c*, the same regulations as for full courses apply.



Anthropology

*Associate Professor of Anthropology and
Chairman of the Department*
R.K. Vastokas, M.A., PH.D.

Professor
K.E. Kidd, M.A., F.R.A.I.

Associate Professors
K.A. Tracey, B.SC., D.SC.; Miss Evelyn M. Todd, B.A., PH.D.;
C.H. Torok, M.A., PH.D.

Assistant Professors
P.D. Harrison, M.A., PH.D.; H.S. Helmuth, D.SC.;
Mrs. Joan M. Vastokas, M.A., PH.D., F.R.A.I.

*Special Cross-Appointment
with Royal Ontario Museum*
Kent Day, M.A., PH.D.

Lecturer in Indian-Eskimo Studies
H.A. McCue, B.A.

*Special Lecturers in
Indian-Eskimo Studies*
E.M. Benedict, B.A.; P.A. Cumming, B.A., LL.M.;
Malcolm Montgomery

Courses in Anthropology are numbered according to the year in which they will normally be taken by students majoring in Anthropology. Details of prerequisites are given under the individual course listings, but it should be noted that *Anthropology 100* is a normal prerequisite for other courses in Anthropology.

Anthropology 410, 420, 421, 430 and 440 are normally open only to students majoring in Anthropology in the honours program.

Students studying Anthropology as a single-major must take *Anthropology 100, 200*, and two of *210 or 211, 230 or 331, or 240*. To be eligible for admission to a single-major honours program, students must have obtained standing in *Anthropology 100, 200, 210 or 211, 230 or 331, and 240*.

Students studying Anthropology as a joint-major must take *Anthropology 100* and two of *200, 210, 230, 240*. It is recommended that these courses be completed by the end

of third year. Course selection in any joint-major program must be approved by the department.

Students studying Anthropology as a single-major in the honours program must also take *Anthropology 420* and two of *Anthropology 410, 421, 430, 440, 450*. Joint-majors must take *Anthropology 420*.

Anthropology 100
Introductory Anthropology: A survey of the four fields of anthropology: Physical Anthropology, Archaeology, Cultural Anthropology, and Linguistics. Major topics of discussion will be human development, Old World and New World archaeology, patterns of culture among preliterate societies, and languages and communication. Two hours of instruction weekly including lectures, tutorials and demonstrations, occasional field trips.
Evelyn M. Todd and staff

Anthropology-Sociology 200
Cultural Anthropology: An analysis of the dimensions of culture in pre-literate societies, considered in terms of technology, social organization and ideology, including a survey of current approaches to the study of culture. Prerequisite: *Anthropology 100 or Sociology 100 or 110* or the permission of the instructor. Lecture, seminar weekly.

Anthropology-Indian-Eskimo Studies 201
Native Societies of Canada: A study of the prehistoric background and modern groupings of Indians in Canada at the time of historical contact, including observations on physical, economic, cultural and linguistic aspects. Prerequisite: *Anthropology 100 or Indian-Eskimo Studies 100* or permission of the instructor. Lecture, seminar weekly.
C.H. Torok

Anthropology 210
Archaeological Methods and Techniques: A discussion of methods and techniques in theory, field, and laboratory drawing from Old World and New World sources. Includes practical instruction in the use of field instruments and laboratory techniques. Prerequisite: *Anthropology 100*. Lecture and laboratory weekly.
P.D. Harrison and Kent Day

Anthropology 230

General Linguistics: Descriptive, historical and comparative linguistics; principles and methods of linguistic analysis; history of linguistic theory. Prerequisite: *Anthropology 100* or permission of instructor. Lecture, two-hour laboratory-seminar weekly. (Not offered in 1971-72.)

Evelyn M. Todd

Anthropology 240

Introduction to Physical Anthropology: A study of man's evolutionary development, the physical characteristics of the living races of mankind and an introduction to human genetics. Prerequisite: *Anthropology 100* or permission of the instructor. Two hours of instruction weekly, including lectures, demonstrations and tutorials.

K.A. Tracey

Anthropology 301

Peoples and Cultures of Africa: This course will deal with the development of man in Africa, the background of early racial amalgamation, and the physical characteristics of the living races of Africa as well as a study of African culture and history before and after the era of European domination. Prerequisite: *Anthropology 100* or permission of instructor. (Not offered in 1971-72.)

Anthropology 302

Cultures of the Pacific Basin. An introduction to the peoples, the cultures, and history of the Pacific Basin. Prerequisite: *Anthropology 100* or permission of the instructor. Lecture, seminar weekly. (Offered in alternate years commencing 1971-72.)

Joan M. Vastokas

Anthropology 310

Historical Archaeology of Canada: An examination of the results of excavation on sites of the historic period in Canada, both native and non-native, with a view to assessing their contribution to knowledge of the period.

Underwater archaeology of the area to be included, as well as a study of methods of dating sites. Prerequisite: *Anthropology 100* or permission of the instructor.

Seminar weekly, fortnightly lecture, occasional field trips.

K.E. Kidd

Anthropology 311

Prehistory of North America: This course will survey the prehistoric cultures of North America north of Mexico from man's first entry into the New World to European contact. Particular emphasis will be placed on cultures of the Northeast. Prerequisite: *Anthropology 100*. Lecture, seminar weekly.

Anthropology 321

Culture and Communication. Analysis of the effects of culture on patterns of non-verbal communication. Discussion of kinesics, proxemics, and choreometrics.

Prerequisite: *Anthropology 200* or *230* or permission of instructor. One two-hour seminar weekly. (Offered in alternate years commencing 1972-73.)

R.K. Vastokas

Anthropology 330

Algonquian Linguistics: Principles of linguistic analysis and reconstruction applied to languages of the Algonquian family; detailed study of phonology, morphology and syntax of selected Algonquian languages spoken in Canada, especially Ojibway and Cree. Prerequisite: *Anthropology 100* or permission of instructor. Seminar, two-hour laboratory weekly.

Evelyn M. Todd

Anthropology 331

Languages of the World: Geographical and social variation in language; language contact and bilingualism; linguistic nationalism; standard and international languages; writing systems; language learning and literacy; the principles of language classification, both genealogical and typological; linguistics and archaeology; a survey of the languages of the world. Prerequisite: *Anthropology 100* or permission of the instructor. Lecture, tutorial weekly. (Offered in alternate years commencing 1971-72.)

Evelyn M. Todd

Anthropology-Biology 340

Primatology: General biology, systematics, anatomy, palaeontology and behaviour of non-human primates, including the importance of studying primates for the understanding of human evolution. Prerequisite: *Anthropology 240* or permission of instructor. Lecture, seminar

weekly; occasional field trips. (Offered in alternate years, commencing 1972-73.)

H.S. Helmuth

Anthropology-Biology 341

Comparative Osteology of Man: the skull and the post-cranial skeleton of early and modern man and nonhuman primates; methods of description and measurement; determination of age and sex. Prerequisite:

Anthropology 240 or permission of instructor. Lecture, seminar weekly.

H.S. Helmuth

Anthropology-Biology 342

Social Biology of Man: Biological basis of man's unique capacities; genetic basis for the varieties of man living today in various natural and sociocultural environments; man's genetic and demographic prospects. Prerequisite: *Anthropology 240* or permission of instructor. Lecture, seminar weekly.

K.A. Tracey and H.S. Helmuth

Anthropology 350

The Arts of Africa, Oceania, and the Americas: An introduction to the visual arts of the traditional cultures of the above areas. Prerequisite: *Anthropology 100*. Two hours of seminars weekly, and occasional field trips.

Joan M. Vastokas

Anthropology 410

Mesoamerican and Andean Prehistory: From Early Man to European conquest, with particular attention to agricultural development and to the growth of civilizations in the various culture regions of the two areas. Presented in two parts. Prerequisite: *Anthropology 210*. One two-hour seminar weekly.

P.D. Harrison and Kent Day

Anthropology 420

The History and Theory of Anthropological Thought: A discussion of principal trends in anthropological thinking from the mid-nineteenth century to the present. "Schools" of cultural anthropology such as evolutionism, historicism, diffusionism, structural-functionalism, neo-evolutionism and componential analysis will be treated in an exclusively

tutorial setting. Prerequisite: *Anthropology 200*. Enrolment may be limited. Two hours of tutorials weekly.

C.H. Torok

Anthropology 421

Ethnohistory of Canada: A study of the principles of ethnohistorical research with special attention to their applicability to Canadian materials; and of the native cultures as reported in documentary sources, their interactions with the invading European cultures, and some of the problems arising therefrom. Historical source materials and archaeological evidence will be surveyed.

Prerequisite: *Anthropology 100* or permission of instructor. A reading course, with tutorials at monthly intervals, occasional field trips.

K.E. Kidd

Anthropology 430

Anthropological Linguistics: Field methods in linguistics; oral literature; language, society and culture. Prerequisite: *Anthropology 230*. Three hour seminar-laboratory weekly.

Evelyn M. Todd

Anthropology 440

Advanced Physical Anthropology: Demonstration and practice in the use of anthropometric, dermatoglyphic and serological techniques in physical anthropology. Prerequisite: *Anthropology 240* or permission of instructor. Enrolment may be limited. Instruction will be by means of laboratories and seminars involving three hours of work weekly, and occasional field trips.

H.S. Helmuth

Anthropology 450

Anthropology of Art: An anthropological analysis of the visual arts of Western and non-Western peoples. Works of art will be examined cross-culturally in terms of product, process, and communication. Prerequisite: *Anthropology 100* or permission of instructor. Two-hour seminar weekly.

Joan M. Vastokas

Indian-Eskimo Studies Program

Indian-Eskimo Studies 101 is a prerequisite to all subsequent courses in the discipline and only in exceptional cases may this be modified in consultation with the instructors. Five or six courses will be required to qualify for a major in the ordinary program.

Indian-Eskimo Studies 101

A survey of the political, economic and social processes which affect the native Canadian in the contemporary Canadian society. Lecture, seminar or tutorial weekly, occasional field trips and workshops.

E.M. Benedict

Indian-Eskimo Studies—Anthropology 201

Native Societies in Canada: See *Anthropology 201*

Indian-Eskimo Studies 210

The Indian Identity: A study of native (Indian, Eskimo and Métis) personalities and values in the native setting. Lecture fortnightly, tutorials weekly, occasional field trips.

H.A. McCue

Indian-Eskimo Studies 300

Regional Problems of Development: A study of the current processes in native communities to develop a political and cultural consciousness with special emphasis on the regional nature of the native communities. Lecture fortnightly, tutorials weekly, occasional field trips.

H.A. McCue and staff

Indian-Eskimo Studies 340

Law and the Canadian Indian:

P.A. Cumming and M. Montgomery

Additional Courses 1971–72

Additional faculty appointments will be made and additional courses will be offered. These will be listed in a supplement to the Calendar.

Biology

Professor of Biology and Chairman of the Department

D.B. Carlisle, M.A., D.PHIL., D.SC., F.L.S., F.Z.S., F.I.BIOL.

Professor

R.L. Edwards, M.A., D.PHIL., F.R.E.S.

Associate Professors

J.E. Nighswander, B.SC.F., PH.D.; P.M. Powles, B.A., M.SC., PH.D.; I.M. Sandeman, B.SC., F.L.S.

Assistant Professors

Michael Berrill, M.SC., PH.D.; Roger Jones, M.SC., PH.D.

Sessional Lecturers and Instructors

Mrs. C.D. Johnson, B.SC.; T.R. Matthews, B.SC.

It is believed that most students wishing to major in Biology will want to undertake a four-year program leading to honours. Almost all the third and fourth-year courses therefore may be taken in either year and will be offered only in alternate years.

Special Notes

1. *Biology 100, 110, 120.* No student may take more than two of these three courses in first year. *Biology 100* is an introductory course in general biology designed primarily for those who do not have a strong grounding in Grade 13 Biology. Students who have already decided to major in Biology should take both *Biology 110* and *120* in their first year; if, however such a student has a weak background in Biology he should consider taking *Biology 100* concurrently with either *Biology 110* or *120*. If only one of the latter was taken in first year, the other should be taken in second year. Students not intending to major in Biology may take any one or two of these courses. Students who decide at the end of their first year that they wish to major in Biology will normally be expected to have completed *Biology 110* and *120* by the end of the second year.
2. Students who may eventually choose to honour in Biology or take courses at honours level should read the appropriate section below and choose their courses accordingly.
3. Students entering second year should consult the Chairman of the department before selecting courses.

Biology as a single-major in the ordinary program
This program is designed for students who wish to have a broad knowledge of Biology by the end of their third year. A minimum of six courses in Biology, which must include at least two of the three courses *Biology 100, 110 and 120* (normally the last two of these) and one course in *Chemistry (Chemistry 100)* are normally required. Students majoring in Biology are advised to choose their electives from courses given in related disciplines; *Geography 100, Mathematics 100 and Physics 100* are particularly suitable.

Biology as a single-major in the honours program
This program is designed for students who wish to have an extensive knowledge of Biology, and is particularly suitable for those planning to undertake government work, or graduate work or teach secondary school. During their first three years of study, students normally take at least six courses in Biology, including *Biology 110 and 120* and one or more courses in Chemistry (e.g. *Chemistry 100, 200*) and in Mathematics (e.g. *Mathematics 100; Statistics 100, 200*).

Biology in a joint-major program at the ordinary level
Five or six courses in Biology and five or six courses in another subject.

Biology in a joint-major program to honours level
Students wishing to pursue such programs should consult the Chairmen of the respective departments at the end of their second year.

Biology 100
General Biology: A survey of biological principles as displayed by both plants and animals. This is a course for students who have not had Grade 13 Biology, or do not intend to major in Biology. Two lectures and one three-hour laboratory period weekly; tutorial fortnightly.
Michael Berrill

Biology 110
The Animal Kingdom: A comparative study of the main groups of animals, their structure, development, physiology, life history, and phylogenetic relationships. Prerequisite: Grade 13 Biology or *Biology 100*, or by

arrangement with instructor. Lecture, three-hour laboratory period, and seminar or tutorial weekly.
T.R. Matthews

Biology 120
The Plant Kingdom: A comparative study of the main groups of plants, their structure, development, physiology, life histories, and phylogenetic relationships. Students will be expected to make a plant collection. Prerequisite: Grade 13 Biology or *Biology 100*. Two lectures, three-hour laboratory weekly; seminar and tutorial monthly.
Roger Jones

Biology 201b
Population Genetics and Evolution: A study of the genetic basis of evolution at the population level. Prerequisite: *Biology-Psychology 286a* or by arrangement with instructor. Recommended: *Statistics 200*. Lecture, three-hour laboratory, and seminar or tutorial weekly.

Biology 202
Ecology: Relationships of plants and animals to their total environment; the studies of population and communities within various ecosystems. Prerequisite: *Biology 100*. Lecture, three-hour laboratory, and seminar or tutorial fortnightly; field trips.
P.M. Powles

Biology 211
Vertebrate Zoology: The evolution, taxonomy and functional morphology of the vertebrates. Prerequisites: *Biology 100*. Lecture, three-hour laboratory, and seminar or tutorial weekly.

Biology-Psychology 286a
General Genetics: Fundamental genetic principles, including classical and molecular aspects. Prerequisites: At least one of *Biology 100, 110 or 120* or by arrangement with instructor. Lecture, three-hour laboratory weekly; and seminar or tutorial weekly.
J.E. Nighswander

Biology 300

Biology of Pollution: The causes and biological effects of pollution with special reference to water pollution.

Prerequisite: *Biology 100, 120 and Chemistry 100.*

Lecture, tutorial, three-hour laboratory weekly.

D.B. Carlisle

Biology 301a

Electron Microscopy: A study of the ultrastructure of cells and tissues with emphasis on the biological applications of the electron microscope. Recommended: *Biology 110 or 120.* Lecture, three-hour laboratory and seminar or tutorial weekly. Enrolment may be restricted. (Offered in alternate years commencing 1970-71.)

Biology 302b

Cytology and Microtechnique: Theory of nucleocytoplasmic relations in plant and animal cells. Practice in histological and histochemical techniques in the microscopic study of plant and animal materials. Recommended: *Biology 110 or Biology 120.* (Offered in alternate years commencing 1972-73.)

Biology 303a

Biological Techniques: A practical course in the techniques most commonly used in biology. Prerequisite: *Biology 100.* Lecture, three-hour laboratory and tutorial or seminar weekly. (Offered in alternate years commencing in 1971-72.)

D.B. Carlisle

Biology 304b

Marine Biology: Life in the sea. Prerequisite: *Biology 100.* Seminar, tutorial, three-hour laboratory weekly, field trip.

Michael Berrill

Biology 305a

Limnology: The ecology of fresh waters. Prerequisite: *Biology 100 and 202.* Seminar, tutorial weekly; six-hour laboratory fortnightly; field trips.

P.M. Powles

Biology 310

Parasitology: The biology of animal parasites.

Prerequisite: *Biology 110.* Two tutorials and one three-hour laboratory period weekly. (Not offered in 1971-72.)

Biology 311

Insect Biology: A general introduction to the world of insects, their structure, physiology, behaviour, classification and ecology. Special emphasis will be placed on the way in which insects affect mankind, including their economic influences both beneficial and detrimental.

Prerequisite: *Biology 110* or permission of instructor.

Lecture, tutorial, three-hour laboratory weekly.

R.L. Edwards

Biology 312a

Developmental Biology: The concepts of self-assembly as illustrated by regeneration, metamorphosis, cancer and embryonic behaviour. Prerequisite: *Biology 100.* Lecture, three-hour laboratory and tutorial weekly. (Offered in alternate years commencing 1971-72.)

Michael Berrill

Biology 313b

Experimental Embryology: The problems and processes involved in the development of eggs. Prerequisite: *Biology 100.* Recommended: any second year biology course. Lecture, tutorial, three-hour laboratory weekly. (Offered in alternate years commencing 1970-71.)

Biology 314b

Fish Biology: The biology, ecology and physiology of marine and fresh water fishes. Management practice of fisheries. Prerequisite: *Biology 100.* Seminar, tutorial, three-hour laboratory weekly, field trips.

P.M. Powles

Biology 320a

Plant Growth and Development: Hormonal and environmental control of plant growth and development. Recommended: *Biology 120.* Lecture, three-hour laboratory and seminar or tutorial weekly. (Offered in alternate years commencing 1970-71.)

Biology 321b

Plant Nutrition and Water Relations: Aspects of metabolism, mineral nutrition and water relations of plants.

Prerequisite: *Biology 120* or permission of instructor. Lecture, three-hour laboratory and seminar or tutorial weekly. (Offered in alternate years commencing 1971-72.)

Roger Jones

Biology 323b

Plant Pathology: Principles of plant pathology and the physiology of host/parasite relationships. Applications of electron microscopy to studies of plant pathogens.

Prerequisite: *Biology 120* or by permission of instructor. Two lectures, one three-hour laboratory and tutorial or seminar fortnightly. (Offered in alternate years commencing 1970-71.)

Biology-Chemistry 330

General Biochemistry: See *Chemistry 330*.

Biology-Anthropology 340

Primateology: See *Anthropology 340*.

Biology-Anthropology 341

Comparative Osteology of Man: See *Anthropology 341*.

Biology-Anthropology 342

Social Biology of Man. See *Anthropology 342*.

Biology-Geography 350a

Biogeography: Basic biological and geographical principles affecting the distribution of animal and plant populations. **Prerequisites:** *Biology 110, 120* and *Geography 100*, or by arrangement with instructor. Lecture, tutorial, three-hour laboratory weekly.

Biology-Psychology 380a

The Vertebrate Nervous System: See *Psychology 380a*.

Biology-Psychology 381b

Comparative Endocrinology: Anatomy and physiology of the endocrine systems of animals and the effects of hormones on development and behaviour. Integration between the nervous and endocrine systems. **Prerequisites:** *Biology 100* and *Psychology 100* or *110*, or by arrangement with instructor. Lecture, tutorial, three hour laboratory weekly. (Offered in alternate years commencing 1970-71.)

Biology-Psychology 382a

General Physiology of Animals: The general principles governing physiological processes in animals. **Prerequisites:** *Biology 110*. Recommended: *Chemistry*

210; Psychology 100 or *110*. Lecture, three-hour laboratory and tutorial weekly.

D.B. Carlisle

Biology-Psychology 383b

Physiological Psychology: See *Psychology 383b*

Biology-Psychology 385a

The Control of Animal Behaviour: The interaction of the environment with neural and hormonal systems in determining the behaviour of animals. **Prerequisites:** *Biology 100* and *Psychology 100* or *110* or by arrangement with instructor. Recommended: *Biology 110*. Lecture, tutorial, three hour laboratory weekly. (Offered in alternate years, commencing 1970-71.)

Biology-Psychology 386b

Social Behaviour of Animals: The evolution and characteristics of the behaviour of animal societies. **Prerequisite:** *Biology 110* and *Psychology 100* or *110* or by arrangement with instructor. Lecture, three-hour laboratory, tutorial weekly. (Offered in alternate years commencing 1971-72.)

Michael Berrill

Biology-Psychology 387b

Cybernetics and Communication: The mechanisms of communication, co-ordination, control and integration in animals. **Prerequisite:** *Biology 100* and *Psychology 100* or *110*. Recommended: *Biology-Psychology 380a*. Seminar, three-hour laboratory, tutorial weekly. (Offered in alternate years commencing 1971-72.)

D.B. Carlisle

Biology 400

Selected Topics in Biology: Students choosing this course will investigate a specific field of interest under the guidance of a faculty member. All students taking single honours in Biology are expected to take this course.

D.B. Carlisle

Biology-Chemistry 430

Advanced Biochemistry: See *Chemistry 430*

Chemistry

Professor of Chemistry and Chairman of the Department
G.O. Aspinall, PH.D., D.SC., F.R.I.C., F.R.S.E.

Professors

S.A. Brown, B.S.A., M.S., PH.D., F.C.I.C.

K.B. Oldham, PH.D., D.SC., F.R.I.C.

Associate Professors

I.D. Chapman, B.SC., M.A.; R.E. March, B.SC., PH.D.;

A.H. Rees, M.A., PH.D., F.R.I.C.; R.A. Stairs, M.SC., PH.D.

Assistant Professors

R.G. Annett, B.SC., PH.D.; P.F. Barrett, M.SC., PH.D.

Senior Demonstrator

Mrs. M.L. Amyotte, B.SC.

Ontario Grade 13 Chemistry is the normal prerequisite for all students taking *Chemistry 100*. Students planning to major in Chemistry are also advised to take Physics and Mathematics at Grade 13 level. *Chemistry 100* is prerequisite to all other courses in Chemistry.

Students entering the first or second year should note that the single major program in Chemistry should consist of at least six courses in the subject including *Chemistry 100, 200, 210, 300, and 310*. Those hoping to be admitted to the honours program in Chemistry should normally take seven courses in the first three years, those five required for the major program, and in addition *Chemistry 240* and either *Chemistry 320* or *330*. They should note that a course in analytical or inorganic chemistry is required for those hoping to attain professional membership of the Chemical Institute of Canada.

Students entering the third year of study of Chemistry as a major subject should take *Chemistry 300, 310* and either one or two other courses in Chemistry from *Chemistry 240, 320* and *330*.

Students entering the fourth year of the honours program will be required to take *Chemistry 490* (a two-course equivalent) and one of the two courses, *450* and *460*. Two further courses may be selected from the other of *450* and *460* and from the various courses in selected topics in the major branches of the subject, namely, *Chemistry 400, 410, 420, 430*. However, after consultation with the department, one of the optional courses may be chosen

from third-year courses in Chemistry, or from courses in another subject.

Students planning to take a joint-major in Chemistry and another subject should consult the two departments concerned as early as possible. Joint-major programs involving Chemistry and another discipline must contain no fewer than five courses in Chemistry including *Chemistry 100, 200* and *210*, and two third-year courses. For example, the normal Chemistry content of a joint-major program in Chemistry and Biology would include *Chemistry 100, 200, 210, 310* and *330*. However, students intending to proceed to a single honours program in Chemistry after a joint-major must include *Chemistry 300* and *310* in the third-year program.

It should be noted that *Mathematics 100* or *110* is a prerequisite for *Chemistry 200* and succeeding courses in Physical Chemistry. *Physics 100* is strongly advised as a first year course especially for students wishing to specialize in Physical/Inorganic Chemistry, since these students may wish to take further supporting courses in Physics. It should also be noted that a course in Physics is normally required for those hoping to attain to professional membership of the Chemical Institute of Canada. *Biology 100* is a recommended course for those wishing to take courses in Biochemistry.

Laboratory deposit

All students taking one or more laboratory courses in Chemistry will be required to pay a laboratory deposit of \$20. Depending on breakages incurred during the year the deposit will be returned wholly or in part at the end of the session.

Chemistry 100

General Chemistry: An introductory course in physical and inorganic chemistry. Atoms, molecules, crystals, chemical binding, ions, electrolysis, reaction rate, equilibrium, inorganic and organic descriptive chemistry. Two lectures, one laboratory weekly, tutorials at intervals to be arranged.

P.F. Barrett

Chemistry 200

Elementary Physical Chemistry: The theme of this course is the physical chemistry of reactions. Kinetic and thermo-

dynamic aspects of chemical reaction are treated and emphasis is placed upon the continuing interplay between experimental results and their theoretical interpretation. Heterogeneous chemical reactions are discussed and analogies are sought with such processes as phase transitions. Prerequisite: *Mathematics 100* or *110*. Lecture, tutorial and laboratory weekly.

K.B. Oldham

Chemistry 210

Elementary Organic Chemistry: Structure, synthesis, and reactions of the principal classes of organic compounds, with an introduction to principles underlying reaction mechanisms and stereochemistry. Lecture, laboratory weekly, fortnightly tutorial or additional lecture.

G.O. Aspinall

Chemistry 240

Analytical Chemistry: The theory and practice of classical and instrumental analytical chemistry, including volumetric, gravimetric methods, and chromatography. Applications to both inorganic and organic analysis. Emphasis is upon the physical and chemical principles, rather than on details of procedure. Two lectures, tutorials or seminars weekly, laboratory weekly.

R.A. Stairs

Chemistry 300

Physical Chemistry: Introduction to quantum chemistry, chemical bonding, statistical mechanics, spectroscopy and reaction rate theory. Prerequisite, *Chemistry 200*. Two lectures, tutorials or seminars weekly, laboratory weekly.

R.E. March

Chemistry 310

Organic Chemistry: A study of aliphatic, aromatic, and heterocyclic compounds, with stress on modern methods and concepts in stereochemistry, reaction mechanisms. Prerequisite, *Chemistry 210*. Lecture weekly, tutorial, seminar alternate weeks, laboratory weekly.

A.H. Rees

Chemistry 320

Inorganic Chemistry: Atomic structure and its relation to chemical properties of the element, valence theory, stereochemistry of inorganic compounds, co-ordination compounds. Prerequisite, *Chemistry 200*. Two lectures, tutorials or seminars and one laboratory weekly.

P.F. Barrett and R.A. Stairs

Chemistry-Biology 330

General Biochemistry: An introduction to the chemistry of animals, higher plants, and micro-organisms, including composition of tissues, nature of enzyme and biocatalysis, energy relationships, formation and degradation of metabolically important compounds, and control of metabolism. Prerequisite, *Chemistry 210*, *Biology 100*, *Chemistry 200* also desirable. Lecture weekly, one tutorial and one seminar in alternate weeks, laboratory weekly.

S.A. Brown

Chemistry 400

Selected Topics in Physical Chemistry: Specialized aspects of physical chemistry, including surface chemistry of interfaces, spectroscopy of excited molecules, solutions of electrolytes, electroanalysis, chemical dynamics, the kinetics of electrode reactions. Prerequisite, *Chemistry 300*. Two lectures, tutorials or seminars weekly.

I.D. Chapman and staff

Chemistry 410

Selected Topics in Organic Chemistry: Advanced heterocyclic chemistry. Modern synthetic methods. Introduction to chemistry of natural products. Prerequisite, *Chemistry 310*, co-requisite *Chemistry 460*. Two lectures, tutorials or seminars weekly.

A.H. Rees and G.O. Aspinall

Chemistry 420

Selected Topics in Inorganic Chemistry: Specialized aspects of inorganic chemistry, theories of bonding in inorganic molecules, factors affecting the stabilities and reactivities of compounds, nuclear chemistry. Prerequisite *Chemistry 320*. Two lectures, tutorials or seminars weekly.

R.A. Stairs and P.F. Barrett

Chemistry-Biology 430

Advanced Biochemistry: Current concepts in theory and methods of biochemistry, including enzyme kinetics and mechanisms, metabolic regulation, structure-function relationships of macromolecules, selected topics in metabolic pathways, applications of enzymological and isotopic techniques. Prerequisite: *Chemistry-Biology 330*. Lecture weekly, tutorial and seminar in alternate weeks.

S.A. Brown

Chemistry-Biology 431a

Advanced Experimental Biochemistry: A laboratory course which may only be taken in conjunction with *Chemistry-Biology 430* and which is available only to students not enrolled in the Chemistry honours program. A laboratory course for six hours weekly during the first half of the session. Prerequisite *Chemistry-Biology 330*.

S.A. Brown

Chemistry 450

Theoretical Chemistry: The more mathematical aspects of chemistry with applications to physical and inorganic chemistry, quantum chemistry, symmetry aspects of molecular and crystal structure. Prerequisite *Chemistry 300*. Two lectures, tutorials or seminars weekly.

K.B. Oldham and staff

Chemistry 460

Physical-organic Chemistry: Methods for the study of organic reaction mechanisms. Molecular rearrangements, organic photochemical reactions, conservation of orbital symmetry. Application of physical methods in organic chemistry, including ultra-violet, infra-red, nuclear magnetic resonance, and mass spectroscopy, and optical rotatory dispersion. Aspects of stereochemistry. Prerequisite *Chemistry 310*. Two lectures, tutorials or seminars weekly.

G.O. Aspinall and A.H. Rees

Chemistry 490

Experimental Chemistry and Studies in the Original Literature (a two-course equivalent): Practical work, normally including a major project, from various branches of chemistry according to the student's field of specialization. Lectures on the structure of, and practical experience in the

use of, the original literature of Chemistry. A minimum of twelve hours per week will be spent in experimental and project work. Required course for honours Chemistry students.

G.O. Aspinall and staff



Classical Studies

Professor of Classics and Chairman of the Department
B.P. Reardon, M.A., D.U.

Professor in Ancient History
Gilbert Bagnani, D.LITT., F.R.S.C.

Associate Professors
Roger Crowhurst, B.A., PH.D.; A.M. Young, M.A., PHIL.M.

Assistant Professors
Miss Janet P. Bews, M.A., PH.D.; Konrad H. Kinzl, PH.D.;
David F.R. Page, B.A.

The Department of Classical Studies offers courses in four fields, all of which provide general background for studies in the humanities. Greek and Latin involve study of language, literature and civilization, and may be studied as major subjects to honours level, in the programs set out below; Ancient History and Greek and Latin Literature may be studied in English to supplement programs in Classics or in other disciplines, notably in history and literature.

Major Programs

Latin
a) Latin as a single-major in the ordinary program: six Latin courses and *Ancient History 200*. Strongly recommended: a second Ancient History course.
b) Latin in a joint-major ordinary program: five Latin courses. Recommended: *Ancient History 200*.

Greek
Ontario Grade 13 is normally an equivalent to *Greek 100*
a) Greek as a single-major in the ordinary program: *Greek 200, 210, 300, 310, 320* and *Ancient History 100*. Strongly recommended: *Ancient History 200* and/or *300*.
b) Greek in a joint-major program: five courses in Greek, including *Greek 200, 210* and *300*. Recommended: *Ancient History 100*.

Classics
a) Five Latin courses and either three Greek courses or *Ancient History 200* and two Greek courses.
b) Five Greek courses and either three Latin Courses or

Ancient History 100 and two Latin courses.
c) Joint-major in Latin and Greek: five Latin courses, five Greek courses beyond *Greek 100*, and at least one Ancient History course.

Honours Programs

These are offered in Latin, Greek, and Classics. Fourth-year programs will be arranged by the department to suit the interests and qualifications of students.

General Remarks

a) *Latin 200* and *210* alternate with *Latin 300* and *310* and are open to both second- and third-year students. *Latin 320* is offered every year, to third-year students only.
b) *Greek 200* as described below is designed for students who have a Grade 13 or *Greek 100* qualification and propose to take several Greek courses. Its content and the qualification prerequisite may be modified, at the discretion of the department, to meet the needs and interests of other students. Students wishing to study Greek beyond *Greek 100* should consult the department.
c) Practice in prose composition and sight translation, in tutorial or seminar groups, forms part of the program in all years in both Latin and Greek.
d) Courses in Greek and Latin Literature in translation do not count for credit toward a major in Latin. Greek or Classics, but one course may be counted for credit toward a major in English. *Greek and Latin Literature 100* is designed as a first-year course, but may be taken by students in any year.

Latin

Latin 100

This course will be taught in two sections:
a) Elementary Latin: For students with little or no previous knowledge of the language. No prerequisite. Four hours weekly.
D.F.R. Page

b) Studies in Latin Language and Literature: For students with Grade 13 Latin or permission of the department. Selections from prose and verse writings, including Catullus, Cicero, Ovid and Medieval Latin. Three hours weekly.
Janet P. Bews

Intending students should consult the department. Successful completion of the work of either section will qualify students to enrol in further Latin courses.

Latin 200

Further studies in Latin language and literature: Cicero, *Philippics*; Ovid, *Metamorphoses*; Virgil, *Eclogues*. Prerequisite: *Latin 100*. Occasional lecture, two tutorials, language seminar weekly. (Offered in alternate years commencing 1972-73.)

Latin 210

Comedy and satire: Plautus, *Rudens*; Horace, *Satires*; Juvenal. Prerequisite: *Latin 100*. Occasional lecture, two tutorials, language seminar weekly. (Offered in alternate years commencing 1972-73.)

Latin 300

Studies in Augustan literature: Livy; Horace, *Odes*; Propertius. Prerequisite: *Latin 100*. Occasional lecture, two tutorials, language seminar weekly. (Offered in alternate years commencing 1971-72.)

A.M. Young and D.F.R. Page

Latin 310

Virgil, *Aeneid* and *Georgics*. Prerequisite: *Latin 100*. Occasional lecture, two tutorials, language seminar weekly. (Offered in alternate years commencing 1971-72.)

Janet P. Bews and D.F.R. Page

Latin 320

Historical and philosophical writing: Tacitus, *Annals*; Lucretius; Cicero, *Tusculan Disputations*. Prerequisite: *Latin 200, 210, 300 or 310*. Occasional lecture, two tutorials, language seminar weekly.

Janet P. Bews

Latin 400

Reading course. Regular meetings.

Latin 410

Studies in Latin language and literature and Roman civilization, with some concentration on a special subject. Regular meetings.

Greek

Greek 100

Beginners' Greek. Prerequisite: none. Four meetings weekly.

A.M. Young

Greek 200

Prose authors: Plato, *Crito*; Attic Orators, selected passages; Herodotus, selected passages. (See General Remarks *b*.) Prerequisite: *Greek 100* or Grade 13.

Occasional lecture, two tutorials, one language seminar weekly.

A.M. Young

Greek 210

Homer. Prerequisite: *Greek 100* or Grade 13. Two tutorials weekly.

Roger Crowhurst

Greek 300

Tragedy: Aeschylus, *Prometheus Bound*; Sophocles, *Antigone*; Euripides, *Hippolytus*. Prerequisite: *Greek 200* or *210*. Two tutorials weekly.

Greek 310

Prose: history, oratory, biography: Thucydides; Demosthenes, *Philippics*; Plutarch, *Lives*; Xenophon, *Hellenica*. Prerequisite: *Greek 200* or *210*. Two tutorials weekly.

Greek 320

Verse: lyric, elegiac, comic: selections from the *Oxford Book of Greek Verse*; Aristophanes, *Frogs*; Menander, *Dyscolus*. Prerequisite: *Greek 200* or *210*. Two tutorials weekly.

Greek-Philosophy 385

Greek philosophical texts: See *Philosophy 385*.

Greek 400

Reading course. Regular meetings.

Greek 410

Studies in Greek language, literature and civilization, with some concentration on a special subject. Regular meetings.

Ancient History

Ancient History 100

The history of Greece to the Hellenistic period: One seminar series will discuss political and economic history; the other will discuss themes in Greek society and civilization as seen through the art of the period. Open to students in any year. Two lectures weekly; seminar fortnightly.

Roger Crowhurst and K.H. Kinzl

Ancient History 200

The rise and decline of the Roman Republic. Open to students in any year. Three lectures per fortnight, fortnightly seminar.

K.H. Kinzl

Ancient History 300

The Roman Empire from Augustus to Constantine, with special emphasis on social and economic developments and the rise of Christianity. Prerequisite: *Ancient History 200*. Three lectures per fortnight, fortnightly seminar.

D.F.R. Page

Ancient History 320

The later Roman Empire, from Constantine to Justinian; the transition from classical to medieval culture, with special reference to the establishment of Christianity. Open to history or classics students beyond first year. Weekly lectures.

Gilbert Bagnani

Ancient History 330

Roman Law: Prerequisite *Ancient History 200* or *Latin 100*. Enrolment will be restricted. Weekly lectures.

Gilbert Bagnani

Greek and Latin Literature

Greek and Latin Literature 100

Study in translation of major Greek and Latin literary works: Homer, *Odyssey*; lyric verse; Sophocles, *Oedipus Tyrannus*, *Antigone*; Euripides, *Bacchae*; Aristophanes, *Clouds*; Plautus, *Menaechmi*; Seneca, *Oedipus*; Plutarch, selected *Lives*; Longus, *Daphnis and Chloe*; Lucian,

selected works. Three lectures per fortnight, fortnightly seminars.

A.M. Young and staff

Greek and Latin Literature 200

Study in translation of selected areas of Greek and Latin literature: (a) The Trojan theme: Homer, Aeschylus, Sophocles, Euripides. (b) Rome: Virgil, Livy, Ovid, Horace, Juvenal. (c) Literary criticism: Aristotle, Horace, Longinus. (d) Private study of an additional topic.

Prerequisite: *Greek and Latin Literature 100* or permission of the department. One lecture weekly, fortnightly seminars.

Janet P. Bews and staff



Economics

Professor of Economics and Chairman of the Department
M.J. Boote, B.A., PH.D.

Professor
W.D.R. Eldon, A.M., PH.D.

Assistant Professors
D.C.A. Curtis, M.A.; W.T. Hunter, B.COM., M.A.;
H. M. Kitchen, M.A.; K.S.R. Murthy, M.SC., M.A.

Economics 100 is a prerequisite for all other courses in Economics. Six courses in Economics are required for a single-major in the ordinary program, five or six courses for a joint-major. The required courses for either a single- or joint-major are *Economics 100, 200 and 300*.

Students intending to take honours in Economics should include *Mathematics 100 or 110* and *Statistics 100* in their program; students taking a major in the ordinary program are advised to include *Statistics 100*. *Statistics 100* may be taken in either the first or second year of studies. Students taking a major or an honours program in Economics are advised to select a combination of courses from among such related disciplines as Geography, History, Mathematics, Politics, and Sociology.

Economics 100
Introductory economic analysis: Composition, growth, and fluctuation of national output. Money and the general level of prices. Markets, the nature of competition, and the formation of individual prices. International trade, tariffs, and the balance of payments. Lectures and discussions, two hours weekly.
D.C.A. Curtis and staff

Economics 200
The Price System: A theoretical analysis of conditions for rational allocation of scarce resources by buyers and sellers in different types of markets. Empirical material relating to government intervention in consumer choice, pricing in agriculture, price and wage controls, price leadership, price determination, and structure and performance of oligopoly and monopoly. Two lectures weekly, one seminar fortnightly.

Economics 210
Public Finance: Government expenditure structure (theoretical and practical); welfare economics of the public sector; tax structure, tax incidence and effects; fiscal federalism; fiscal policy. Two lectures weekly, tutorial fortnightly.
H.M. Kitchen

Economics 220
Monetary Economics: Theoretical and institutional aspects of money and their relationship to economic activities and policies. Two lectures weekly, seminar or tutorial fortnightly.

Economics 300
Macroeconomic Theory and Policy: National accounting; determination of national income and output; IS-LM approach, Keynesian vs. Classical theory. Aims, techniques and limitations of monetary and fiscal policies; inflation, guidelines and trade-offs; external constraints; recent macroeconomic policy. Two seminars weekly, tutorial fortnightly.

Economics 310
International Economics: Trade theory, tariffs and regional integration with special reference to Canada; foreign exchange markets and exchange rates; balance of payments and its adjustment; international financial institutions in historical perspective. Two seminars weekly, periodic tutorials.

Economics 320
Introduction to Econometrics: Problems of measurement and estimation in Economics. Simple regression model, multiple regression (general linear model). Problems of estimation and testing of economic relationships under conditions of heteroscedasticity, autocorrelation, errors in variables. Introduction to distributed lags and simultaneous equations models. Two lectures, seminar weekly.
K.S.R. Murthy

English Literature

Economics 330

Development Economics: Theories and processes of development applicable to low income economies, including sources of productivity and allocation of resources. Seminar weekly, tutorial fortnightly.

M.J. Boote

Economics 400a

Cycles and Growth.

Economics 401b

Monetary Theory.

Economics 405

Microeconomics.

Economics 430

Economic Development.

Economics 440

Industrial Organization.

Economics 450a

Economic History.

Economics 451b

Urban Economics.

Professor of English Literature and Chairman of the Department

Miss B.E. Rooke, M.A., PH.D.

Professors

R.D. Chambers, B.A., B.LITT.; Gordon Roper, A.M., PH.D.; James L. Winny, M.A., PH.D.

Associate Professors

S.F. Gallagher, M.A., PH.D.; Ian McLachlan, M.A.; Miss E.M. Orsten, M.A., PH.D.; J.S. Pettigrew, M.A.; R.H. Sadleir, M.A.

Assistant Professors

M.S. Berkowitz, M.A., PH.D.; G.D. Eathorne, M.A.; A.G. Fisher, M.A.; O.S. Mitchell, M.A., PH.D.; J.P. O'Flinn, M.A., B.LITT.; J.M. Treadwell, B.A.; F.B. Tromly, M.A., PH.D.

Lecturers

Stephen Bonnycastle, B.A.; David Glassco, B.A.

The regular courses for undergraduates studying English Literature are:

- English as a single-major subject in the ordinary program: *English 110, 200*, one of *210, 300, 320* or *331*, and three further courses;
- English as a joint-major subject in the ordinary program: *English 110, 200* and three further courses;
- English as a single-major subject in the honours program: *English 110, 200, 210, 300, 320, 331*, and five further courses;
- Students wishing to take a joint-major honours program in English and a related subject should consult the department.

Students may elect to take one course in Greek and Latin Literature in Translation, or in Comparative Literature or in French-Canadian Literature in Translation as one of the optional courses required in the major and honours programs in English.

First-year Courses: *English 101* is designed for students who do not intend to pursue major or honours studies in English; *English 110* is the normal beginning course of the major and honours programs. These two courses may not be taken together in the same year of studies. Students who have completed *English 101* and then wish to major or honour should subsequently take *English 110*.

English 101

Studies in English literature. The course concentrates on the work of a few major poets, dramatists, and novelists. Minimum of one lecture hour weekly and fortnightly tutorials.

A.G. Fisher and staff

English 110

Studies in Shakespeare with emphasis on approaches to critical reading. Minimum of two lectures weekly and fortnightly tutorials.

S.F. Gallagher and staff

Second and Third-Year Courses: The first digit suggests the year of study in which the course might normally be taken, but any second- or third-year course is open to any second-, third-, or fourth-year student and will not be considered an out-of-year course.

English 200

Studies in non-dramatic English literature of the Renaissance, with special attention to Spenser, Donne, and Milton. Minimum of one lecture hour weekly and fortnightly tutorials.

F.B. Tromly and staff

English 210

Studies in English literature of the Romantic period, with special attention to Wordsworth, Coleridge, and Keats. Minimum of one lecture hour weekly and fortnightly tutorials.

S. Bonnycastle and staff

English 230

Studies in American literature. Minimum of one lecture hour weekly and fortnightly tutorials.

M.S. Berkowitz and staff

English 300

Studies in English literature of the Restoration and eighteenth century. Minimum of one lecture hour weekly and fortnightly tutorials.

R.D. Chambers and staff

English 320

Studies in English literature of the Victorian period. Minimum of one lecture hour weekly and fortnightly tutorials.

English 331

Studies in Middle English literature, with special attention to Chaucer. Minimum of one lecture hour weekly and fortnightly tutorials.

E.M. Orsten

English 340

Studies in the fiction and drama of the Modern English period. Minimum of one lecture hour weekly and fortnightly tutorials.

G.D. Eathorne and staff

English 360

Studies in Canadian literature. One seminar weekly.

English 361a

Studies in Canadian literature in English. Minimum of one lecture hour weekly and fortnightly tutorials.

Gordon Roper

English 362b

French-Canadian literature in translation: This half course is taught by the Department of French Studies. Prerequisite: *English 360a*. Lecture, seminar weekly.

Bernard Émont

English 370

Studies in the English novel to the twentieth century. Minimum of one lecture hour weekly and fortnightly seminars.

R.D. Chambers and staff

Fourth-year Courses: Fourth-year courses are normally limited to students in the fourth or honours year of studies in English. Third-year students may petition the department for permission to enrol in a fourth-year course.

English 400

Honours Colloquium.

B.E. Rooke

English 410
Theory and history of literary criticism.
B.E. Rooke

English 420
Studies in Elizabethan and Jacobean drama, with special attention to Shakespeare.

English 431
Studies in Old English language and literature.
E. M. Orsten

English 440
Studies in modern poetry.
Ian McLachlan and S. Bonnycastle

English 450
Advanced studies in modern American literature.
Gordon Roper

English 490
Special author or topic. A list of topics for selection will be circulated by the department to students who have been admitted to honours.

English 491
Research study. The course allows the student to select, with the approval of the department, his own area for research study which he then pursues under the direction of a member of the department.

Comparative Literature

The courses in Comparative Literature are centred on the theme of tradition and change in the literature written in the main European languages during the twentieth century. The works to be discussed will be studied in translation. Programs and preliminary reading lists are circulated in the spring. Enrolment will be limited.

Comparative Literature 200
Studies in twentieth century poetry and fiction. One lecture fortnightly and one tutorial weekly.
J.M. Valverde

Comparative Literature 300
Studies in the development of twentieth century drama. One lecture fortnightly and one tutorial weekly.
Ian McLachlan



French Studies

Professor of French and Chairman of the Department

Frederick K. Harper, M.A.

Professor

Robert W. Torrens, M.A., PH.D.

Associate Professors

J.M.A. Le Dreff, M.A.; Peter Royle, M.A., PH.D.

Assistant Professors

C.E.J. Caldicott, M.A., D.E.S., PH.D.; Georges Cohen, L.-ES-L., D.E.S.; Terrence Mellors, M.A.; Mrs. J. Reardon, L.-ES-L., B.A.

Lecturers

Bernard Émont, L.-ES-L., D.E.S.; Alan E. Franklin, M.A.; Pierre Maurey, L.-ES-L., D.E.S., AGRÉGATION.

The normal prerequisite for the study of French is Grade 13 or its equivalent. All courses require extensive practice in written and oral French.

A major in French will consist of *French 110* (or in special cases *French 100* with the permission of the department), *French 200*, *210* and at least three additional literature courses.

Students who are combining French and a second subject as a joint major will take *French 110*, *200*, *210* and two additional literature courses. *Philosophy 100* and *History 220* provide very helpful background for many of the courses in French Literature offered in this department.

French 100

An intensive language course for those students who do not intend to major in French. Composition, conversation, laboratory practice. Prerequisite: Grade 13 French or its equivalent. Three hours weekly.

R.W. Torrens and staff

French 110

A survey of French literature from the seventeenth century to the present. One lecture, one oral seminar, one composition class and one hour of laboratory practice weekly. Normally required for students intending to major

in French. Prerequisite: Grade 13 French or its equivalent. Four hours weekly.

F.K. Harper and staff

French 200

Phonetics, conversation, composition, laboratory practice. Required for a major in French. Prerequisite: *French 100* or *French 110*. Three hours weekly.

F.K. Harper and staff

French 210

French literature of the seventeenth century: Works by Corneille, Molière, Racine, Pascal, La Rochefoucauld, Boileau, La Fontaine, La Bruyère. Required for a major in French. Prerequisite: *French 110* or permission of the department. Lecture, one seminar weekly.

C.E.J. Caldicott

French 220

French-Canadian literature. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

Bernard Émont

French 230

French romanticism: Rousseau, Chateaubriand, Lamartine, Vigny, Musset, Hugo. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

F.K. Harper

French 300

Composition, conversation, introduction to philology laboratory practice. Prerequisite: *French 200*. Three hours weekly.

Pierre Maurey

French 310

The modern French novel: Balzac, Stendhal, Flaubert, Zola, Proust, Goncourt. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

Peter Royle

French 320

Modern French Theatre: Claudel, Giraudoux, Anouilh, Sartre, Ionesco, Beckett. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.
Georges Cohen

French 330

French literature, eighteenth century thinkers, moralists and dramatists: Montesquieu, Diderot, Rousseau, Voltaire, Marivaux, Beaumarchais. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.
Peter Royle

French 340

The contemporary novel: Gide, Camus, Sartre, Malraux, Le Nouveau Roman. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.
Peter Royle

French 350

Civilisation française contemporaine. A broad survey of modern France following the evolution of its institutions, constitutions and cultural life from the end of *La Troisième République* to the present day. Illustrated by readings from contemporary French authors, political commentators and newspapers. Prerequisite: *French 100* or *110*, and subject to interview in French. One lecture and two tutorials weekly. One class seminar fortnightly.
C.E.J. Caldicott and staff

English 362b

French-Canadian literature in translation: Attention is called to this half-course which is taught by the Department of French Studies but will not count as a French credit. (See listing under English Literature.)

Fourth-year courses in French are open only to students in the fourth or honours year of studies in French or by permission of the department.

French 400

Phonetics, linguistics and composition. Two hours weekly.
Pierre Maurey

French 410

Medieval French language and literature. Two tutorials weekly. (Not offered in 1971-72.)

French 420

French literary criticism. Two tutorials weekly.
Georges Cohen

French 430

Initiation to literary research. Two tutorials weekly.
Georges Cohen

French 440

French Renaissance, sixteenth century, with intensive study of Rabelais, Montaigne, Marot, Ronsard, DuBellay and D'Aubigné. Two tutorials weekly.
Peter Royle

French 450

Modern French poetry. Representative poets from the "Decadents" to the present, including Mallarmé, Laforgue, Valéry, Apollinaire, the Surrealists, Supervielle, and Reverdy. Two tutorials weekly.
Georges Cohen

French 460

Non-metropolitan French contemporary literature. Emphasis will be given to contemporary French-Canadian literature. Included will be recent literature from Switzerland and Belgium, and from French Africa and French overseas possessions. Prerequisite: *French 220*. One lecture and one seminar weekly.
Bernard Émont

Note: All fourth-year students will do one hour of composition weekly.

Geography

Associate Professor of Geography and Chairman of the Department

W.P. Adams, B.A., M.Sc., Ph.D.

Assistant Professors

A.G. Brunger, M.Sc.; M.J. Crozier, B.Sc., Ph.D.;

F.M. Helleiner, M.A.; G.A. Nader, B.A., Ph.D.

Students intending to specialize in Geography are strongly urged to take *Statistics 100*; honours students must do so. All students are encouraged to discuss their ancillary subjects with the department. The attention of students taking half courses in Geography is drawn to half courses offered in Philosophy. *Mathematics 220* is recommended for suitably qualified students of Geography. *Geography 100* or permission of instructor is a prerequisite for all other courses. The sequence 200, 300 and 400 is required for students majoring in Geography. Field work forms an integral part of most courses; the cost and dates of major field projects will be announced at the beginning of the year.

Geography 390, a field course, is a required course for honours students in either third or fourth year.

Geography 100

Introduction to Physical Geography: basic concepts in Meteorology-Climatology, Geomorphology and Biogeography with emphasis on processes and interrelationships within the earth-atmosphere system. Laboratory work includes an introduction to Air Photo Interpretation. Two lectures weekly and laboratory fortnightly with discussion periods, occasional field trips.

W.P. Adams and F.M. Helleiner

Geography 200

Cartography: The design and use of maps. Elementary plane survey, projections, the cartographic process, symbolization, maps as models, map grammar and linguistics, statistical cartography, computer-maps, historical cartography and mental maps. Three hours of instruction per week including lectures, laboratories, and tutorials. Field work.

A.G. Brunger

Geography 250

Geomorphology: details to be announced.

M.J. Crozier

Geography 260

Geography of Canada: a problem-oriented course, dealing with Canada's role in the world, the human and natural resources and the efforts to cope with current and incipient problems. Reading and essay assignments will constitute the bulk of the program before Christmas. Thereafter, two lecture hours, one seminar and one tutorial per week. Occasional field trips.

W.P. Adams and F.M. Helleiner

Geography 270

Urban Geography: An examination of urban functions, the spatial arrangement of urban centres and the concept of hierarchies; analysis of the internal organization of cities in terms of function, movement and physical layout; an examination of social controls affecting the growth of cities and future patterns of urban development. Three hours of lectures, seminars, tutorials, laboratories weekly.

G.A. Nader

Geography 300

Advanced methodology and techniques of geographical analysis; methods of data retrieval, including aspects of plane survey and air-photo interpretation; statistical and other methods of analyzing data; methods of presenting results; including the use of computers in cartography; development of geographical thought. Approximately three hours weekly, laboratories, seminars, lectures, field work.

Geography 320

Economic Geography: A systems approach to the spatio-economic organization of the world. Current methods of inquiry into the processes within the system and models for analyzing the processes. Lecture weekly, tutorial fortnightly, seminar/laboratory weekly, occasional field trips. (Not offered in 1971-72.)

F.M. Helleiner

Geography 330

Historical Geography: Geographical and process models, man and nature, conservation, landscape evolution and society, perception and decision-making in the historical geographical context. Diffusion and migration with an emphasis on nineteenth century migration and settlement in Canada. The historical geography of Southern Ontario and Algonquin Park. One lecture and tutorial or seminar weekly, periodic laboratories and field trips.

A.G. Brunger

Geography 340

Hydrometeorology: Advanced study of the elements of weather and climate with emphasis on the role of water in climate and on applied climatology. Lecture, seminar weekly, occasional tutorials and field trips. (Not offered in 1971-72.)

W.P. Adams

Geography-Biology 350a

Biogeography: See *Biology 350a*.

Geography 380

Regional Economic Development: Analysis of how a region grows; regional economic change within a national economy; techniques of regional analysis; the spatial arrangement of land use within regions; regional economic planning; comparative examination of regional development problems, policies and experience. One lecture, tutorial and seminar or laboratory per week. (Offered in alternate years commencing 1971-72.)

G.A. Nader

Geography 390b

Field course in Geography. This is a required course for honours students and may be taken in third or fourth year. It involves an extended period in a selected field area during the March break with extensive preparation and follow-up. A regular weekly meeting will be scheduled throughout the post-Christmas period.

W.P. Adams and G.A. Nader

Geography 400

Dissertation: This course is seen as the culmination of the honours degree in Geography. Throughout the final year,

students will engage in a major research project entailing periodic meetings with faculty. A schedule for the submission of research proposals and for the completion of various stages in the project will be set out at the beginning of the year. Students taking this course must obtain full details of it and begin preparation at the end of third year.

A.G. Brunger and staff

Additional courses 1971-72

One additional faculty appointment will be made and at least three new courses will be offered including *Geography 250* which is listed, and one half-course in geology. One of these courses will be regional geography. All will be at the second- and third-year levels.



German

Associate Professor of German and Chairman of the Department

D.D. Stewart, M.A., PH.D.

Assistant Professors

J.C. Fewster, M.A.; A.A. Krueger, STAATSEXAMEN

German may be studied as a single-major or joint-major subject in the ordinary program or as a joint-major subject in the honours program.

German 100

Designed for students with little or no knowledge of German, this course provides an introduction to German grammar with intensive oral practice in the language laboratory. Two lectures, one seminar, two laboratory hours weekly.

German 110

A survey of the history of German civilization, with special attention to the literature and thought of the period 1850–1950; grammar review, composition and conversation. This course is offered in two distinct sections: one for students with Grade 13 standing in German, and one for students with at least second class standing in Grade 12 German or its equivalent. Two lectures, two seminars, one laboratory hour weekly.

German 200

German literature and thought from Nietzsche to Brecht. Prerequisite: *German 110*, or permission of the department. One lecture, two seminars weekly.

German 210

The Age of Goethe I. A study of the beginnings of modern German literature, with special attention to Lessing, Goethe and Schiller. Composition. Prerequisite: *German 110* or permission of the department. Two lectures, two seminars, one laboratory hour weekly.

German 300

The Age of Goethe II. A study of the literature of the period 1790–1832 with emphasis on Goethe, Schiller,

Hölderlin and Grillparzer. Composition. Prerequisite: *German 210*. Two lectures, two seminars weekly.

German 310

The Romantic Movement. Studies in Romantic literature from Wackenroder to Heine, complementary to *German 300*. Prerequisite: *German 300* or permission of the department. Two lectures weekly. (Offered in alternate years commencing 1972–73.)

German 330a

History of the *Novelle* from Goethe to Grass.

Prerequisite: *German 200* or *210*, or permission of the department. One lecture, two tutorials weekly.

A.A. Krueger

German 340b

The drama of social protest: A study of the influence of politics and society on selected dramatists from *Sturm und Drang* to the present. Prerequisite: *German 200* or *210*, or permission of department. One lecture, two tutorials weekly.

German 350

The German novel from Grimmelshausen to the present. Prerequisite: *German 200* or *210*, or permission of department. Two lectures weekly. (Offered in alternate years, commencing 1971–72.)

German 400

History of the German language; introduction to medieval German literature. One lecture, two seminars weekly. (Formerly *German 320*).

A.A. Krueger

German 410a

German Baroque literature. Lecture, seminar weekly.

German 420b

Studies in German literature since 1945. Lecture, seminar weekly.

German 430

Major paper.

Hispanic Studies

Professor of Spanish and Chairman of the Department
J.M. Valverde, LIC.FIL.Y LET., DR.FIL.Y LET.,
EX-CATEDRATICO

Associate Professor
J.P. González-Martín, LIC.DER., DR.DER.

Assistant Professors
E. Gastón, LIC.DER., LIC.FIL.Y LET., D.E.S., DR.FIL.Y LET.;
Mrs. Rosa María Garrido de González, LIC.DER., DR.DER.,
M.A.; Mrs. Dawn L. Smith, M.A.

Lecturer
G.D. Aitken, M.A.

There is no prerequisite for the study of Spanish.
Spanish 100 and *200* require regular laboratory practice.
Oral ability is considered in determining final standing.
Most courses are given in Spanish.

Spanish as a major subject in the ordinary program:
Spanish 100; *200*, *210* or *211*, *300*, and one or two of *310*,
320.

Students wishing to take a joint major honours program
in Spanish and a related subject should consult the department.

Students with sufficient previous knowledge of Spanish
may be admitted directly to *Spanish 200* and *210* or *211*, at
the discretion of the department.

Spanish 100
Beginners' course in Spanish: this course consists of an
introduction to grammar and reading, and practice in oral
Spanish. Texts include a grammar and two readers. Three
seminars weekly; one-hour language laboratory weekly.
Rosa María Garrido de González and staff

Spanish 110
Designed for students with some previous knowledge of
Spanish. Grammar review, composition and conversation.
Two seminars weekly, two laboratory hours weekly.
Prerequisite: Grade 13 Spanish, or permission of department.
E. Gastón and staff

Spanish 200

Advanced Spanish: A general course of Spanish conversation, composition and pronunciation, including seminars and laboratory work. Conducted in Spanish. Two hours of seminars weekly; one-hour language laboratory weekly.
Prerequisite: *Spanish 100*, or Grade 13, or equivalent.
E. Gastón

Spanish 210

Introduction to Spanish and Spanish-American civilization. A study of civilization in the Spanish-speaking countries, (history, art, ideas, social developments). One lecture, one seminar weekly. Conducted in Spanish. Students enrolled in this course normally are also required to register in *Spanish 200*.

J.P. González-Martín

Spanish 211

A survey of Spanish and Spanish-American literatures from the origins to the present. One lecture, one seminar weekly. Conducted in Spanish. Students enrolled in this course are normally required to register in *Spanish 200*.

J.P. González-Martín

Spanish 300

Advanced oral Spanish and composition: An analytical study of the elements required in the use of Spanish, especially in writing, with a consideration of the Spanish-American peculiarities. Lecture, seminar weekly.

Rosa María Garrido de González

Spanish 310

Spanish literature, contemporary period: the Spanish literature since the generation of 1898. Lecture, seminar weekly.

J.P. González-Martín

Spanish 320

Spanish-American literature: The literature of the Spanish-speaking countries of Central and South America, with its historical and social background. Lecture, seminar weekly.

J.M. Valverde

Spanish 400

Honours seminar leading to the completion of an undergraduate thesis, with problems of bibliography and literary criticism.

J.M. Valverde

Spanish 410

Spanish literature of the Golden Age: The Renaissance and Baroque periods, with their social and political background. Mainly intended for honours students, but also open to third-year students. Lecture, seminar weekly.

J.M. Valverde

Spanish 411

History of the Spanish language and Spanish medieval literature. Mainly intended for honours students, but also open to third-year students. Lecture, seminar weekly.

Rosa María Garrido de González

Further programs of fourth-year honours Hispanic Studies courses, tailored to the requirements of single- and joint-major honours students will be worked out in discussion between the candidate and the Chairman of the department.

History

Professor of History and Chairman of the Department

Alan Wilson, M.A., PH.D.

Vanier Professor of Canadian History

W.L. Morton, S.M., M.A., B.LITT., LL.D., D.LITT., F.R.S.C., F.R.HIST.S.

Professor

John Gilchrist, PH.D.

Associate Professors

J.C. Barker, M.A., B.D., PH.D.; C.M. Greene, A.M., PH.D.; F.A. Hagar, M.A., PH.D., M.LITT.; W.D. Heeney, B.A., B.D., D.PHIL.; B.W. Hodgins, M.A., PH.D.; D.S. Macmillan, M.A., PH.D., F.R.A.H.S.; W.G. Pitman, M.A.; S.T. Robson, B.A., D.PHIL.; T.H.B. Symons, M.A.

Assistant Professors

E.H. Jones, M.A.; Douglas McCalla, M.A.; R.J.D. Page, M.A.; Deryck M. Schreuder, B.A., D.PHIL.; S.D. Standen, M.A.

Lecturers

A.O.C. Cole, M.A.; J.D.P. Martin, B.A., B.L.S.

History 100 is the normal prerequisite for other courses in Canadian History and is required for all majors. Majors will normally take *History 100* in their first year, two of *History 200, 210, 220, 230* in their second year, and at least three History courses in each of their third and fourth years. Except where otherwise indicated, courses are open to all qualified students.

History 100

An introduction to analytical history, illustrated by the Canadian experience. Weekly lectures and weekly group discussions examine major problems in historical development and interpretation in Canada. Each student will concentrate on one of the following areas in tutorials: a) Canada, 1600–1870; b) Canada since 1840; or c) French Canada.

R.J.D. Page and staff

History 200

The expansion of Europe from 1400 to 1825: Selected topics concerning the background to European expansion, and the economic and political effects of this process in the world outside Europe. Lecture weekly, two-hour tutorial fortnightly. Enrolment may be limited.

D.S. Macmillan

History 210

American History: Social, economic and political developments from the Colonial Period to the end of the Civil War. Lecture; seminar or tutorial weekly.

F.A. Hagar and E.H. Jones

History 220

Modern European History: Selected topics, with emphasis on revolution, reform, and industrialism in the nineteenth and twentieth centuries. Lecture weekly, tutorial fortnightly. Enrolment may be limited.

J.C. Barker and S.T. Robson

History 230

Urban Canada, 1760–1920: A course in economic and social history; the development of and responses to urbanization in nineteenth-century Canada. Lecture weekly, two-hour tutorial fortnightly.

E.H. Jones and Douglas McCalla

History–Politics 300

Canadian History and Politics: Selected topics in the development of Canadian federalism. Seminars and tutorials, with occasional lectures.

B.W. Hodgins

History 301

French Canada to 1840: Government and society in French Canada. Selected themes from the beginning of the French Régime to 1840. Lecture weekly, two-hour tutorial fortnightly.

S.D. Standen

History 310

American History: The reform and Progressive tradition, with attention to domestic and foreign policies since the Civil War. Lecture, seminar or tutorial weekly.

Alan Wilson

History 320

British History from 1815 to present: Selected subjects concerning the development of society, government, the economy, and foreign relations since the Industrial Revolution. Weekly lecture, two-hour tutorial fortnightly.

D.M. Schreuder

History 330

German History from 1848 to 1939: Selected problems concerning the political, social, and economic history of the Germans. Two lectures, two tutorial hours fortnightly. Enrolment may be limited.

S.T. Robson

History 340

Selected problems in the theory and practice of Imperialism, 1850–1960, with special reference to Africa, emphasizing the comparative practice of the several European colonial powers. Lecture weekly, two-hour tutorial fortnightly.

R.J.D. Page and D.M. Schreuder

History 351

Europe in the Age of Enlightenment: A study of political, economic, and intellectual developments from 1648 to 1789, placing emphasis upon French history, leading thinkers of the Age of Reason, and the nature of Enlightened Despotism. Two-hour lecture/seminar weekly.

J.C. Barker

History 360

Medieval Europe: A course of medieval studies with particular reference to the period 1048–1348. Selected topics concerning social, economic, cultural, and ecclesiastical developments. Lecture and tutorial weekly.

John Gilchrist

History 370

Russian History: A study of the development of the Muscovite State and of the Tsarist Autocracy, with some attention to the development of the reform and revolutionary movements. Lecture weekly, two-hour tutorial fortnightly. Enrolment may be limited.

D.S. Macmillan

History 380

British History from the sixteenth to the eighteenth century. Lecture weekly, two-hour tutorial fortnightly.
F.A. Hagar

History 390

Reformation Europe: A course of studies with particular reference to the first half of the sixteenth century. Selected topics related to the theological and socio-economic aspects of the period. Lecture, tutorial weekly.
John Gilchrist

History-Politics 400

Contemporary Canadian problems: An intensive study of some aspects of bilingualism and cultural pluralism; constitutional change; Canadian sovereignty and Canadian-American relations. Prerequisite: *History-Politics 300*, or permission of the department. Two-hour seminars fortnightly.

T.H.B. Symons and David Cameron

History 401

The Growth of the British North American provinces, 1807-1867, studied as an exercise in connectional history, and as affected by external and internal techniques, institutions, ideas and customs, in the timber trade, public administration, political institutions, inventions, etc.
W.L. Morton

History 402

Late Victorian Canada: An Intellectual and Social Approach, 1870-1914. This course will investigate the ideas which lay behind the history of the period and analyse the society from which they emerged.
R.J.D. Page

History 410

American History: Selected topics in the Progressive era. Emphasis will be given to independent reading, with joint discussion meetings every three weeks.
Alan Wilson

History-Philosophy 470

Philosophy of History: A study of history as a form of enquiry, with special reference to problems of explanation, objectivity and the historical individual; also an examination of some general interpretations of the historical process. Offered jointly by the staff in Philosophy and History. During the Spring Term, students majoring in History will elect individual work with members of the staff in History. Lectures and discussions in one two-hour session weekly.

M.L. Rubinoff

History 480

Reading Course: Special topics, designed to provide an opportunity for more intensive study of particular topics. Open to fourth-year honours undergraduates in History and to some third-year students by special application to the department. Regular consultation and direction during the academic year.



Mathematics

Professor of Mathematics and Chairman of the Department
A.P. Guinand, B.SC., D.PHIL.

Professor
T.E.W. Nind, M.A.

Associate Professors
Cyril Carter, B.SC., PH.D.; G.F. Hamilton, B.A.SC., M.A., PH.D., P.ENG.; T.N. Murphy, B.SC.

Assistant Professors
I.C. Chakravartty, M.SC., PH.D.; J.P. Henniger, M.SC., PH.D.; E.A. Maxwell, M.SC., PH.D.

Mathematics 100 or 110 and 200 must be included in any major program. Mathematics 220 and 300 are required subjects in a single-major program which must also include a minimum of six courses in Mathematics. One of Mathematics 220 and 221 together with one of Mathematics 300 and 301 are required subjects in a joint-major program, which must also include a minimum of five courses in Mathematics.

The requirements for a single-major with honours are those for a single-major in the ordinary program together with *Mathematics 230*. In addition a minimum of four Mathematics courses, including *Mathematics 400*, is required in fourth year. Three of these courses must be at fourth-year level. *Mathematics 301* is a recommended course.

The requirements for a joint-major with honours are those for a single-major in the ordinary program. In addition a minimum of two Mathematics courses is required in fourth year. One of these must be a full Course at fourth-year level.

It is recommended that those intending to proceed to honours should consult the Chairman of the department as soon as possible after the end of their second year.

The normal prerequisite for *Mathematics 100 or 110* is *Mathematics A* or its equivalent. *Mathematics 110* is more theoretical than *Mathematics 100* and, correspondingly, applications receive more emphasis in the latter course. In general, students intending to major in Mathematics and those who consider that their mathematical background is good, should register initially in *Mathema-*

tics 110. Mathematics 100 and 110 cannot both be counted for credit.

Except where otherwise indicated, courses are open to all qualified students.

Mathematics 100
Introduction to differential and integral calculus with applications. Elementary differential equations; Taylor series. Two lectures weekly, two-hour problem session fortnightly.
G.F. Hamilton

Mathematics 110
Introduction to differential and integral calculus. Rolle's theorem; Taylor's theorem. Two lectures weekly, two-hour problem session fortnightly.
T.N. Murphy

Mathematics 200
General Mathematics: This course is a continuation of *Mathematics 100 or 110* and includes partial differentiation, multiple integrals, differential equations, elementary properties of a complex variable, infinite series, matrices and simultaneous linear equations, and the co-ordinate geometry of lines, planes and spheres in three dimensions. Prerequisite: *Mathematics 100 or 110*. Two lectures weekly, tutorial fortnightly.
A.P. Guinand

Mathematics-Physics 210
Applied Mathematics: Introduction to the classical study of the motion of particles and rigid bodies. Prerequisite: *Mathematics 100 or 110*. Two lectures weekly, tutorial fortnightly.
G.F. Hamilton

Mathematics 220
Linear Algebra. Autumn Term: Vector spaces, linear mappings, determinants, positive definite scalar products. Winter and Spring Terms: Inner products, linear functionals, eigenvectors and eigenvalues, the spectral theorem, tensor products. Prerequisite: *Mathematics 100 or 110*. Two lectures weekly, tutorial fortnightly.
T.N. Murphy and T.E.W. Nind

Mathematics 221

Linear Algebra and Applications. Autumn Term: As for *Mathematics 220*. Winter and Spring Terms: Linear programming, games theory, graph theory, dynamic programming, information theory. Prerequisite: *Mathematics 100* or *110*. Two lectures weekly, tutorial fortnightly.

Cyril Carter and T.E.W. Nind

Mathematics 230

Introduction to the concepts of modern algebra: Sets, algebraic systems. Prerequisite: *Mathematics 100* or *110*. Two lectures weekly, tutorial fortnightly.

J.P. Henniger

Mathematics 300

Analysis: The real and complex number systems. Sequences and series, metric spaces, Riemann integration, improper and infinite integrals, measure theory and Lebesgue integration. Analytic functions: Taylor's, Laurent's and Liouville's theorems, Cauchy's theorem and the residue calculus. Conformal mapping. Prerequisite: *Mathematics 200*. Two lectures weekly, tutorial fortnightly.

I.C. Chakravartty

Mathematics 301

Analytic Techniques: Functions of a complex variable. Special functions which are defined as integrals. Fourier series and Fourier integrals, ordinary differential equations, orthogonal functions, the Sturm-Liouville problem, partial differential equations. Prerequisite: *Mathematics 200*. Two lectures weekly, tutorial fortnightly.

J.P. Henniger

Mathematics 310a

Applied Mathematics: General theories of classical mechanics. Lagrange's and Hamilton's equations. Variational principles. Prerequisites: *Mathematics 200* and *210*. Two lectures or seminars weekly.

Cyril Carter

Mathematics 323c

Elementary General Topology. Prerequisite: *Mathematics 200* and *230*.

T.N. Murphy

Mathematics 324c

Projective and analytic geometry. Prerequisite: *Mathematics 110* or *200*. (Offered in 1971-72 and in alternate years.)

I.C. Chakravartty

Mathematics 325c

Differential Geometry. Prerequisite: *Mathematics 200*. (Offered in 1972-73 and alternate years.)

Mathematics 326c

Number theory. Prerequisite: *Mathematics 110* or *200*.

A.P. Guinand

Mathematics 328b

Numerical Analysis. Prerequisite: *Mathematics 110* or *200*. (Note that *Computer Science 200a* offered by the Physics Department may be combined with *Mathematics 328b* to constitute one course in Mathematics.)

Cyril Carter

Mathematics 400

Analysis: Advanced analysis for honours students, a continuation of *Mathematics 300*. The Lebesgue integral, theory of Fourier series, topics in classical analysis and modern analysis. Prerequisite: *Mathematics 300*. Open to honours Mathematics students only.

J.P. Henniger

Mathematics 430

Algebra: Category and functor. Universal elements, rings, principal ideal domains, modules, structure of groups, Sylow theorems, Jordan-Hölder theorem. Prerequisite: *Mathematics 230* and *300*. Open to honours Mathematics students only.

T.N. Murphy

Further programs of fourth-year honours Mathematics courses, tailored to the requirements of single- and joint-major honours Mathematics students will be worked out by discussion between the candidate and the Chairman of the department. Among the courses which may be available are Functions of a Complex Variable, Number Theory, Topics in Classical Analysis, Topology, Hydrodynamics, Differential Equations and Non-linear Programming.

Philosophy

Statistics

Statistics 100

Elementary Statistics: An introduction to statistics for students in the social sciences. Not intended for students with a background in Mathematics, nor to be credited toward a major in Mathematics. Two lectures weekly; seminar fortnightly.

E.A. Maxwell

Statistics 200

Mathematical Statistics: An introduction to probability theory and mathematical statistics. Prerequisite: *Mathematics 100* or *110*. Lecture weekly; seminar fortnightly.

E.A. Maxwell

Statistics 300

Experimental Statistics: An introduction to linear models in statistics: regression analysis, design and analysis of experiments. Normal prerequisite: *Mathematics 220* or *221* and *Statistics 200*. Seminar weekly. (Offered in 1972-73 and alternate years.)

Statistics 310

Inference: A general survey of philosophies and techniques in inference. Prerequisite: *Statistics 200*. Seminar weekly. (Offered in 1971-72 and alternate years.)

E.A. Maxwell

Computer Science 200a

See listing under Physics. Note: When combined with *Mathematics 328b* it may be counted as a Mathematics course.

Professor of Philosophy and Chairman of the Department

W.H. Dray, M.A., D.PHIL., F.R.S.C.

Professors

David Gallop, M.A.; M.L. Rubinoff, M.A., PH.D.

Associate Professors

J.I. MacAdam, M.A., PH.D.; Miss M.G. Fry, M.A., B.LITT.

Assistant Professors

C.V. Boundas, M.A.; J.W. Burbidge, M.A., B.D., PH.D.;

Mrs. Gertrude R. Kelly, M.A.; W.A. McMullen, M.A.;

K.R. Rautenkranz, M.A.

Philosophy 100 offers a preparation for other courses in the subject. After the first year, however, a student may enrol in any course in Philosophy with the permission of the department. Permission may also occasionally be granted to first-year students to enrol in second-year courses instead of *Philosophy 100*, if they satisfy the department that they are adequately prepared.

Candidates for the honours degree in Philosophy will be required to complete nine courses in the subject over the four undergraduate years, or seven if in an approved joint-honours program. These must include at least two fourth-year courses in Philosophy, one of which must be *Philosophy 400* or *401*. Provided the foregoing requirements are met, courses from the lower years, or courses offered outside the department, may be taken as part of the fourth year.

Further details of the program in Philosophy, may be obtained from the office of the secretary to the Chairman of the department.

Philosophy 100

Introduction to Philosophy: A study of some fundamental problems and their treatment in a variety of philosophical writings: the existence of God, the relation of mind and body, freedom of the will, the foundations of moral judgment, and the role of reason and sense-perception in our knowledge of the physical world. Weekly lecture, fortnightly tutorial, periodic workshops.

W.A. McMullen and staff

Philosophy 210

Ancient Philosophy: The development of philosophical thought from the Pre-Socratics to Neo-Platonist and Christian thinkers of late antiquity. Special emphasis will be placed upon selected works of Plato and Aristotle. Weekly lecture, weekly seminar or tutorial.

M.G. Fry and David Gallop

Philosophy 212

Early Modern Philosophy: A study of some seventeenth and eighteenth century writers including Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, Kant. (Offered in 1971-72 and alternate years.)

Gertrude R. Kelly

Philosophy 214

Existentialism and Phenomenology: Major themes in the writings of Husserl, Heidegger, Sartre, Jaspers and Merleau-Ponty. Special attention will be given to the relevance of their thought to literature, religion and the social sciences. Weekly two-hour seminar.

C.V. Boundas and M.L. Rubinoff

Philosophy 230

Moral Issues: A study of such practical problems as sex and marriage, birth control, abortion, suicide, euthanasia, capital punishment, drugs, racial discrimination, revolution and non-violent resistance, with emphasis on their implications for ethical theory. Weekly two-hour seminar. (Offered in 1971-72 and alternate years.)

W.A. McMullen

Philosophy-Politics 233

Political Philosophy: (See *Politics 233*).

Philosophy 240

Logic: An introductory study of formal logical systems, together with their use in the analysis of various types of arguments, and a discussion of certain problems in the philosophy of logic. Weekly lecture, weekly tutorial.

J.W. Burbidge

Philosophy 270

Philosophy of Science: The origins and development of science, some scientific world views, and the general nature of scientific method, with special attention to the concepts of law, theory and explanation employed in the physical, biological and social sciences. Weekly lecture, weekly tutorial.

Gertrude R. Kelly

Philosophy 310

Special Topics in Ancient Philosophy: A study of problems or texts of interest to students wishing to do more advanced work. Prerequisite: *Philosophy 210* or the permission of the department. Weekly two-hour seminar. (Offered in 1972-73 and alternate years.)

Philosophy 311a

Medieval Philosophy: Problems central to medieval thought from Augustine to Thomas Aquinas: the nature of God, faith and reason, the problem of evil, free will, essence and existence, universals and truth, time and eternity. Prerequisite: *Philosophy 100*. Weekly lecture, weekly tutorial.

M.G. Fry

Philosophy 312

The Nineteenth Century: The main movements of thought as found in selected writings of Fichte, Hegel, Schopenhauer, Feuerbach, Marx, Kierkegaard, Nietzsche, Comte, J.S. Mill, Peirce, James, Royce, Bergson, Bradley. Weekly two-hour seminar. (Offered in 1970-71 and alternate years.)

Philosophy 320

Metaphysics and Epistemology: A study of some traditional problems such as the nature of space and time, causation, existence, universals, knowledge and belief, perception, meaning and truth. Prerequisite: *Philosophy 100* or the permission of the department. Weekly two-hour seminar.

W.A. McMullen

Philosophy-Psychology 323a

Philosophy of Mind: A study of self-consciousness, intelligence, thought, emotion, choice, intention, belief, pain, memory, and of philosophical problems to which these concepts give rise. Weekly two-hour seminar.

Philosophy 330

Ethics: A consideration of the role of reason and emotion in moral judgment and moral justification. A variety of views will be examined in the writings of classical and contemporary philosophers, including Hume, Kant, Moore, Buber, Camus. Weekly two-hour seminar. (Offered in 1970-71 and alternate years.)

Philosophy-Politics 333

Political Philosophy: Revolutionary and collectivist theory in the writings of Hegel, Marx and Engels, Sorel, Green and Oakeshott. Offered jointly by the staffs in Philosophy and Politics. Prerequisite: *Philosophy-Politics 233* or the permission of either department. Second year students not normally admitted. (Offered in 1971-72 and alternate years.)

J.I. MacAdam

Philosophy-Politics 334

Political Philosophy: Problems of liberal democratic theory as raised by Bentham, Mill and Hart: the meaning of democracy and liberalism, the nature and role of law, the case for representative government, the obligation to obedience and disobedience. Offered jointly by the staffs in Philosophy and Politics. Prerequisite: *Philosophy-Politics 233* or the permission of either department. Second year students not normally admitted. Weekly two-hour seminar. (Offered in 1970-71 and alternate years.)

Philosophy 370b

Philosophy of History: Theories of historical causation and of the significance of the historical process, as found in the work of Augustine, Vico, Hegel, Marx, Toynbee, Spengler, Niebuhr. May not be taken for credit as well as *Philosophy-History 470*. Weekly two-hour seminar. (Not offered in 1971-72.)

Philosophy 371b

Philosophy of Religion: An examination of the nature and status of religious belief, as discussed or displayed in some recent philosophical and theological writings, with special attention to the roles of reason and emotion in religion, and to the attempt to reduce religious belief to matters of social ethics. Weekly two-hour seminar.

J.W. Burbidge

Philosophy 372

Philosophy of Art: An introductory study of basic problems of aesthetic theory: the nature and purpose of a work of art, the difference between art and craft, the role of art in expressing emotion, the meaning and justification of judgments made in art criticism. Weekly two-hour seminar.

Philosophy 373a

Philosophy of Education: An enquiry into the nature and aims of education through a study of selected classical and contemporary authors such as Plato, Rousseau, Dewey, Whitehead, Paul Goodman, B.F. Skinner and Ivan Illich. The Hall-Dennis Report will also be considered. Weekly two-hour seminar.

M.L. Rubinoff

Philosophy-Politics 374b

Philosophy of Law: An examination of theories of natural and legal justice, of the nature of law itself, of responsibility, *mens rea* and negligence and of the justifications of punishment. Special emphasis will be given to the relevant writings of Aristotle, Kant, John Austin and H.L.A. Hart. Weekly two-hour seminar.

J.I. MacAdam

Philosophy-Greek 385

Greek Philosophical Texts: A study of selected authors in the original Greek. Offered jointly by the staffs in Philosophy and Classics. Prerequisite: *Greek 200* and the permission of the departments. Weekly tutorial.

Philosophy 390

Reading Course: Students will be encouraged to pursue a special interest, largely through independent study.

Details will be arranged in consultation with the staff in Philosophy between April 15–30 of the preceding academic year. Periodic tutorials.

Philosophy 391b

Reading Course: Similar to *Philosophy 390*, to be taken in conjunction with a half-course in Philosophy offered during the Autumn Term. Requires permission of the department.

Philosophy 400

Philosophical Texts: An intensive study of major philosophical works, both classical and contemporary.

Choices for a given academic year will be announced by the department by April 15 of the preceding year. Weekly two-hour seminar.

C.V. Boundas and David Gallop

Philosophy 401

Philosophical Problems: An intensive study of problems which have been central in the development of Western Philosophy. Choices for a given academic year will be announced by the department by April 15 of the preceding year. Weekly two-hour seminar. (Not offered in 1971–72.)

Philosophy–History 470

Philosophy of History: (See *History 470*).

M.L. Rubinoff

Philosophy 480

Research Tutorial: On special topics to be announced by the department by March 31 of the preceding year. Weekly tutorial.

Philosophy 490

Reading Course: Students will be encouraged to pursue a special interest, largely through independent study.

Details to be arranged in consultation with the staff in Philosophy between April 15–30 of the preceding academic year. Periodic tutorials.

Physics

Professor of Physics and Chairman of the Department

J.I. Lodge, M.A., PH.D.

Associate Professors

L.C.R. Alfred, B.SC., M.SC., PH.D.; J.W. Earnshaw, B.A.SC., PH.D.; R.G. Johnson, M.SC., PH.D.; W.R. Tyson, B.A.SC., PH.D.

Assistant Professor

J.W. Jury, M.SC., PH.D.

Senior Demonstrators

Mrs. H.G. Morrison, M.A.; Miss E.D. Scott, B.SC.

Physics 100 and *Mathematics 100* or *110* are pre-requisites for all other courses in Physics. Class meetings in Physics courses are divided between lectures and tutorials by the instructor, with the number of each being dependent upon the nature of the topic being discussed. Ontario Grade 13 credits, or equivalent, in Mathematics A and Physics, or permission of the Chairman of the department or his representative, are normal prerequisites for *Physics 100*.

Undergraduates choosing Physics as a major subject normally elect *Chemistry 100* and will ordinarily elect one of the following programs:

- Physics as a major subject in the ordinary program: *Physics 100*, two second-year courses, two third-year courses of which one must be *Physics 300* with *Mathematics 200* as a prerequisite.
- Physics as a single-major honours program: *Physics 100, 200, 220, 300, 320, 330b, 331a, 350b, 400, 420, 430, 440, 450a*, supported by *Mathematics 100* or *110, 200, 210, 310a, 301* and *Computer Science 200a*. Undergraduates in the fourth year must participate in two laboratory periods per week of fourth-year Physics.
- Physics in a joint-major honours program with a related subject: *Physics 100, 200, or 220*, two third-year courses of which one must be *Physics 300*, and two additional courses at the fourth-year level approved by the department, and *Mathematics 100* or *110, 200, 210, 310a*.
- Undergraduates electing no more than two courses in Physics should in general choose *Physics 100* and *200*.

Requests to substitute alternative courses for those regularly prescribed will be considered in relation to the overall programs of the students making the requests.

Undergraduates wishing to elect advanced courses in Physics without having credit for courses listed as prerequisites should consult with the Chairman.

Physics 100

Elementary Physics: Physical optics, particle dynamics, translational and rotational motion, wave motion, electricity, quantum physics (wave nature of matter). Prerequisites: Ontario Grade 13 credits, or equivalent, in Mathematics A and Physics, or permission of the department. Two lectures and three-hour laboratory weekly, fortnightly tutorial.

J.W. Earnshaw

Physics 200

Introductory Modern Physics and Thermophysics: Production and properties of the electron, atomic structure, kinetic theory, X-rays, radio-activity and nuclear structure, relativity, quantum mechanics, solids and statistical physics. Prerequisites: *Physics 100, Mathematics 100*. Two lectures, three-hour laboratory weekly, tutorial fortnightly.

W.R. Tyson and J.I. Lodge

Physics-Mathematics 210

Mechanics: (See *Mathematics 210*).

Physics 220

Electricity and Magnetism: Circuit theory, electrostatics, magnetostatics, electric and magnetic properties of matter, Maxwell's equations. Basic electronics. Prerequisites: *Mathematics 100, Physics 100*. Two class meetings, laboratory weekly.

J.W. Earnshaw

Physics 300

Modern Physics: Development of the foundation of modern physics emphasizing the quantum nature of radiation and matter: quantum mechanics, atomic physics. Introductory nuclear physics. Prerequisite: *Mathematics 200, Physics 200 or 220*. Two lectures, one laboratory weekly.

J.W. Jury

Physics 320

Electronics: Introduction to linear circuit analysis and elementary solid state, theory of operation of thermionic vacuum tubes, semiconducting diodes and transistors. Analysis of power supplies and amplifiers. Prerequisite: *Physics 220*. Two lectures, three-hour laboratory or tutorial weekly.

J.I. Lodge

Physics 330b

Optics: Detailed study of wave theory with examples from light and sound. Reflection, refraction interference, diffraction, superposition, Fourier transforms. Two class meetings weekly, tutorial and laboratory alternate weeks.

J.W. Jury

Physics 331a

Thermophysics: Effect of temperature on the properties of matter: thermodynamics, statistical mechanics. Two lectures weekly, laboratory and tutorial alternate weeks.

W.R. Tyson

Physics 350b

Methods of Mathematical Physics: Vector and tensor analysis, co-ordinate systems, eigenfunctions and eigenvalue problems, numerical methods, probability, theory of errors and data analysis, calculus of variations applied to physical problems. Complementary course to *Mathematics 310a*. Prerequisites: *Physics 210, Mathematics 200*. Two class meetings weekly.

L.C.R. Alfred

Physics 400

Quantum Mechanics: Wave formalism, wave packets, the wave equation, interpretative postulates, energy and momentum eigenfunctions, spherically symmetric potentials, partial wave analysis of scattering, matrix formalism, Heisenberg and Schroedinger pictures, rotation group and angular momentum, perturbation theory, variational method, WKB approximation. Prerequisites: *Physics 300, Physics 350b, Mathematics 310a*. Three class meetings weekly.

R.G. Johnson

Physics 420

Electromagnetic Theory: Electrostatic field in a vacuum and in dielectric materials, solution of Laplace's and Pois-

son's equations, magnetic fields and magnetic materials, advanced treatment of Maxwell's equations, propagation of electromagnetic waves in dielectrics, conductors and plasmas. Prerequisites: *Physics 220, Physics 320, Physics 350b, Mathematics 310a*. Two class meetings weekly.
L.C.R. Alfred

Physics 430

Solid State Physics: Crystallography, theory of electrical and thermal properties of metals, band theory, semiconductors, lattice vibrations, specific heat, imperfections in solids. Prerequisites: *Physics 200, Physics 300, Physics 331a*. Two class meetings weekly, laboratory.
W.R. Tyson

Physics 440

Nuclear Physics: Nuclear properties, two-nucleon problem, models of the nucleus, alpha-, beta-, and gamma-decay, methods of detection and spectroscopy, nuclear reaction theories, introduction to elementary particle physics. Prerequisites: *Physics 300, Physics 350b, Mathematics 310a*. Three class meetings weekly, laboratory.
R.G. Johnson

Physics 450a

Methods of Mathematical Physics: Functions of a complex variable, integral transforms, differential equations of physics, Green's functions, integral equations of physics. Prerequisites: *Physics 350b, Mathematics 310a, Mathematics 301*. Two class meetings weekly.
L.C.R. Alfred

Computer Science 200a

An introduction to algorithmic approaches to problem solving using digital computers: Flowcharting, programming languages, the science of computing, systems analysis, data manipulation, simulation. Course suitable for those using quantitative analysis. Two lectures weekly plus periodic workshops. Open to students in second year and above.
J.W. Jury

Fourth-year laboratory will consist of a program of experiments, including project experiments, designed to suit the needs of each student.

Politics

Assistant Professor of Politics and Chairman of the Department

D.R. Cameron, B.A., M.Sc., Ph.D.

Professors

David Kettler, A.B., M.A., Ph.D.; S.G.D. Smith, M.A., B.Litt.

Associate Professor

J. Wearing, M.A., D.Phil.

Assistant Professors

P. Bandyopadhyay, M.A.; Mrs. Margaret P. Doxey, B.Sc.; K.R.V. Lyon, B.A.; D.R. Morrison, M.A., D.Phil.; W.F.W. Neville, M.A.; R.C. Pahlke, M.A.

In the ordinary program, students who major in Politics must normally include *Politics 100* and *233* among their five to eight major courses.

Students who intend to major in Politics are advised to consult the Chairman of the department or with a Politics tutor in their college as to the possible pattern of courses in their discipline.

Students seeking an honours degree in Politics must normally take *Politics 100, 233* and one further course in Political Theory (chosen from *Politics 333, 334, 410* and *440*) during their program. The honours program involves further specialized courses, including reading courses.

After the first year, students who have taken *Politics 100* may enrol in two-hundred or three-hundred level courses out of year without special permission of the department, with the exception of *Politics 333* and *334*. Except where otherwise indicated, courses in politics are open to all qualified students.

Politics 100

An introduction to the study of politics: Designed to acquaint students with the general framework of political institutions and thought. Emphasis is given to Canadian government and politics and to selected major political concepts. Lecture weekly, tutorials fortnightly.
K.R.V. Lyon and staff

Politics 200

Canadian Politics: An intermediate course in the public policy-making process in Canada, with special attention given to the Cabinet, the legislature and the political parties.

Politics 210

American Politics: A study of the problems which currently beset American society and an analysis of the extent to which the country's politicians and political institutions are able to cope with these problems. Regular tutorials and occasional lectures.

Politics 220

International Politics: An introduction to the study of international politics beginning with the Second World War and placing particular emphasis on the origins and the problems of the Cold War. Special attention will be given to the foreign policies of the major states and to consideration of a number of selected problems, both practical and theoretical, relating to the international system as it has developed since 1945. Prerequisite: *Politics 100* or permission of the department. Regular tutorials and occasional lectures.

Margaret P. Doxey and W.F.W. Neville

Politics-Philosophy 233

Political Philosophy: An introduction to the philosophical study of Politics through an analysis of such concepts as liberty, equality and justice in selected works of Machiavelli, Hobbes, Locke and Rousseau. Offered jointly by the staffs in Politics and Philosophy. No prerequisite. Fortnightly lecture, fortnightly tutorial.

Politics-History 300

Canadian Politics and History: Selected topics in the development of Canadian federalism. (See *History 300*).

B.W. Hodgins

Politics 320

Conflict and Co-operation in International Relations: An analysis of the relations between states based on con-

temporary theoretical approaches to the subject. Characteristics of international systems, the goals and instruments of national policy, sources of tension and conflict, decision-making and the role of coercion will be discussed in the first part of the course. In the second part, emphasis will be placed on international co-operation at the universal and regional level. Prerequisite: *Politics 220* or permission of the department. Regular tutorials and seminars.

Margaret P. Doxey

Politics 330

Comparative Government: A study of the government and politics of Britain and France. Where appropriate the course may examine the political systems of other European states. Prerequisite: *Politics 100* or permission of the department. Lecture weekly, tutorials and seminars fortnightly.

Joseph Wearing

Politics-Philosophy 333

Political Philosophy: Revolutionary and collectivist theory. (See *Philosophy 333*).

Politics-Philosophy 334

Political Philosophy: Problems of liberal democratic theory. (See *Philosophy 334*).

Politics 350

The Politics of Developing Areas: A study of political behaviour and structures in the new states of Africa and Asia with particular reference to the problems of modernization and political development; the relationship between politics and socio-economic change; and the roles of ideologies, political parties, civil and military bureaucracies, and voluntary associations in nationbuilding processes.

Prerequisite: *Politics 100* or permission of the department. Fortnightly tutorials; occasional lectures. (Offered in alternate year commencing 1971 - 72.)

D.R. Morrison

Politics 351

Politics and Social Change in Africa: A study of traditional society and politics, the impact of colonialism, and contemporary strategies for modernization in sub-Saharan

Africa. Special attention will be given to the problems of continental unity and the politics of race in southern Africa. Prerequisite: *Politics 100* or permission of the department. Fortnightly tutorials; occasional lectures. (Not offered in 1971-72.)

D.R. Morrison

Politics 360

Special Topics in Politics: A reading course open only to students majoring in Politics, designed to provide an opportunity for more intensive examination of material studied concurrently in other political courses. Prerequisite: Permission of the department.

Politics-Sociology 370

The course is an introduction to the sociological study of political processes and institutions both on the macro and micro levels. Major theories of sociological analysis will be considered and attention will be focused on the study of political participation, political parties, ideologies, community politics, elites, revolutions, the comparative study of states and power structures. Prerequisites: *Sociology 100* or *110*, or *Politics 100*, and *Sociology 210*, or permission of the department. Lecture, seminar weekly. *Pradeep Bandyopadhyay and Irwin Sperber*

Politics-History 400

Contemporary Canadian Problems: See *History 400*.

Politics 410

Contemporary Political Analysis: A critical examination of recent approaches to the study of politics. Prerequisite: permission of the department. Fortnightly tutorials. *David Kettler*

Politics 420

Foreign Policy Analysis: An analytical study of the process of formulating and executing foreign policy with emphasis on internal and external constraints on decision-

making. Either Canadian or United States foreign policy will be studied in depth. Prerequisite: permission of the department. Fortnightly tutorials. *Margaret P. Doxey*

Politics 440

Marxism: Criticism and Development: A study of the developmental process in the work of Marx and later marxists. The chief concern will be conceptual clarity and methodology. A reading knowledge of French will be most useful. Fortnightly tutorials, seminars. *Pradeep Bandyopadhyay*

Politics 460

Special Topics in Politics: A reading course for Politics honours students, or for students in the final year of a Politics major program. Prerequisite: permission of the department. Periodic tutorials.

Politics 470

Honours thesis.



Psychology

Professor of Psychology and Chairman of the Department
Alan G. Worthington, B.COM., PH.D., M.A.P.S.

Professors

J.M. Blackburn, B.SC., PH.D.; J.P.S. Robertson, M.A.,
PH.D., F.B.P.S.S.

Associate Professors

B.L. Beach, M.A., PH.D.; E.C. Dalrymple-Alford, B.SC.,
PH.D.

Assistant Professors

Mrs. Lorna A. Gendreau, M.A., PH.D.; P.E. Gendreau, M.A.,
PH.D.; R.B. Morris, B.A., M.SC., PH.D.; R.G. Setterington,
M.A., PH.D.; H.J. Stanford, M.A., PH.D.; Peter Watson,
M.A., PH.D.

Lecturer

Mrs. Catherine Sproule, B.A.

Demonstrator

C.T. Smith, B.SC., M.A.

The prerequisite for most upper year courses is *Psychology 110* or permission of the department. Students who take *Psychology 100* and later wish to enter a major program in Psychology, may, under some circumstances, be permitted by the Chairman of the department to do so without taking *Psychology 110*.

Note: Students who completed Psychology 10 before 1969-70 will be permitted to enrol in all courses in accordance with previous Calendar statements.

Students taking a single- or joint-major in Psychology in the ordinary program are required to take *Psychology 110*, *210*, at least one other course in the *Psychology 200* series, and at least two courses in the *Psychology 300* series.

Students taking Psychology as a single-major in the honours program are required to take at least eleven Psychology courses. These must include *Psychology 110*, *210*, *300*, at least two further courses in the *Psychology 200* series, and at least three further courses in the *Psychology 300* series. The fourth or honours year program will consist largely of work leading to a thesis based

on empirical research. In addition, reading courses, periodic seminars, and tutorials will be arranged to meet the needs and interests of the students.

Psychology 100

Introduction to General Psychology: A survey of the field of Psychology with emphasis on the experimental approach to the study of behaviour. Two lectures weekly, tutorial fortnightly.

Note: This course is not designed for students intending to major or do honours in Psychology.

Lorna A. Gendreau

Psychology 110

Introduction to Psychology and to the Scientific Methods Employed: Part of this course will overlap *Psychology 100*. The remainder is designed to provide basic training in experimental methods, including statistics. The course is not as broad as *Psychology 100*, but the areas covered will be treated in greater depth. Two lectures weekly; tutorial weekly; three-hour laboratory monthly.

A.G. Worthington and staff

Psychology 210

Experimental Methods: A course on experimental methods in Psychology dealing with the design and execution of experimental studies, and techniques of statistical analysis. Laboratory work will be designed to illustrate and provide practical experience with methodology.

Prerequisite: *Psychology 110*. Lecture weekly; two-hour laboratory or discussion seminar weekly.

E.C. Dalrymple-Alford and R.B. Morris

Psychology 220

Child Psychology: A discussion of the conceptual bases and research literature of child psychology, with emphasis on research methods, learning, motivation, cognitive processes, socialization and theories of development.

Prerequisite: *Psychology 100* or *110*. Lecture weekly; seminar weekly.

Peter Watson

Psychology-Sociology 230

The Social Psychology of Organizations: See *Sociology 230*.

Psychology-Sociology 240

Social Psychology: A discussion of recent developments in the objective study of attitude measurement, attitude change, person perception, interpersonal attraction, risk taking, affiliation, conformity and compliance, individual performance in groups, leadership, and behaviour in extreme situations. Prerequisite: *Psychology 100 or 110*. Lecture weekly; seminar or tutorial weekly.

Catherine Sproule

Psychology 260

Educational Psychology: Discussion of problems in the psychology of teaching and learning with emphasis on the theoretical and empirical bases for educational practices. Prerequisite: *Psychology 100 or 110*, although background in Learning and Motivation would be helpful. Lecture weekly; two-hour tutorial fortnightly plus additional classes as requested by the students. Reading course option with individual tutorials for each student.

H.J. Stanford

Psychology 270

Personality and Abnormal Psychology: Classification and dynamics of abnormal behaviour. The personality theories of Freud, Jung, Sullivan, Lewin, Sheldon, Murray, Allport, Eysenck, and others. Prerequisite: *Psychology 100 or 110*. Lecture weekly; tutorial or seminar weekly.

B.L. Beach

Psychology-Biology 286a

Genetics: See *Biology 286a*.

Psychology 300

Advanced Experimental Psychology and Statistics: An intensive study of experimental methods in selected areas of Psychology, and advanced statistical analysis. The course will consist of seminars and experimental projects. Prerequisite: *Psychology 210*. Lecture weekly; seminar or tutorial weekly; three-hour laboratory weekly.

A.G. Worthington

Psychology-Philosophy 323a

Philosophy of Mind: (See *Philosophy 323a*).

Psychology 330

Sensation and Perception: The perceptual processes underlying an individual's apprehension of his environment; the organization and interaction of patterns of stimulation, and the ways in which expectancies, memories, frames of reference, and other cognitive functions enter into the structuring of the percept. Prerequisite: *Psychology 210*. Two lectures weekly, tutorial fortnightly.

R.B. Morris and staff

Psychology 340

Abnormal Psychology and Introductory Clinical Psychology: A survey of deviations and disorders in behaviour as investigated by experiments and other systematic procedures. The application of psychological research to medical and allied problems. Prerequisite: *Psychology 210*. Lecture weekly, tutorial fortnightly.

J.P.S. Robertson

Psychology 350

Learning and Motivation: An introduction to scientific analyses and scientific theories in the areas of learning and motivation. Concentration will be on analyses and basic principles of learning and motivation during the Autumn Term, and on scientific theories during the Winter and Spring Terms. Prerequisite: *Psychology 210*. Two-hour tutorials weekly.

R.G. Setterington and P.E. Gendreau

Psychology 360

Cognitive Processes: A survey of recent research on cognitive aspects of selective attention, memory, verbal concepts and language. Prerequisite: *Psychology 210*. Two lecture/discussion periods weekly.

E.C. Dalrymple-Alford

Psychology 370

Psychological Testing: An examination of the principles of the construction and use of psychological tests, and training in test administration. The course will include a survey of widely used tests and a consideration of ethical problems that arise in test usage. Prerequisite: *Psychology 210*. Lecture weekly; seminar or tutorial monthly.

Lorna A. Gendreau and P.E. Gendreau

Psychology-Biology 380a

The Vertebrate Nervous System: Anatomy and physiology of the vertebrate nervous system. Students will examine the structure and basic functions of major components and systems, and the physiology of neurons and simple circuits. Prerequisite: *Biology 100* or *Psychology 100* or *110*. Some advanced courses in either discipline are recommended. Lecture, seminar weekly; three-hour laboratory fortnightly.

H.J. Stanford

Psychology-Biology 381b

Comparative Endocrinology: See *Biology 381b*.

Psychology-Biology 382a

General Physiology of Animals: See *Biology 382a*.

Psychology-Biology 383b

Physiological Psychology: The relationship between the nervous and endocrine systems and the behaviour of vertebrates with emphasis on learning, perception and motivation. Discussion of physiological models and "explanations" of behaviour. Prerequisite: *Psychology-Biology 380a*. Two-hour seminar weekly; three-hour laboratory fortnightly.

H.J. Stanford

Psychology-Biology 385a

The Control of Animal Behaviour: See *Biology 385a*.

Psychology-Biology 386b

Social Behaviour of Animals: See *Biology 386b*.

Psychology-Biology 387b

Cybernetics: See *Biology 387b*.

Psychology 390

Behaviour Modification: The application of principles of learning and motivation to teaching situations. There will be two areas of concentration: 1) scientific analyses and basic principles and 2) management of practical situations in order to produce optimal behavioural change. Prerequisite: *Psychology 100* or *110*. Weekly two-hour tutorials.

R.G. Setterington

Psychology 395

History and Systems of Psychology: A survey of the history and systems of psychology. The work of various authors that may be considered important in the history of psychology because of their contribution to systematic theory, research, or the organization of the discipline will be discussed. Two-hour seminars weekly. Open to honours students or by permission of department.

R.B. Morris and J.P.S. Robertson

Psychology 400 series

Honours Program: An intensive course of study in selected areas of psychology. The program will be arranged in consultation with the department. All students will complete an honours thesis based on empirical research. In addition reading courses, seminars and tutorials will be arranged to meet the needs and interests of students.



Sociology

Professor of Sociology and Chairman of the Department
Rodney F. White, B.A., B.A.SC., M.COM., PH.D.

Professors

Bernard R. Blishen, M.A.; John B. Hudson, M.A., PH.D.;
John C. McDonald, B.A., M.SOC.SC., PH.D.

Associate Professor

Roy T. Bowles, B.SC., PH.D.

Assistant Professors

Pradeep Bandyopadhyay, M.A.; B. Dan Czarnocki, M.A.;
Willem van Wezel Errens, B.A., DOCTORANDUS;
John Hillman, M.A.; Alan D. Lewis, M.A.; Irwin Sperber,
M.A.

*Associate Professor of Social Administration and
Special Lecturer in Sociology*

Mrs. Marjory P. Seeley, B.A., A.M.

Instructors

Gary Caldwell, M.A.; Paul Reed, M.A.

Sociology 100, 210, 211 and at least one of *312, 321, 342, 380* or *422* should be included among the five or more Sociology courses required to complete the ordinary program with a single-major in Sociology and by those proceeding to the honours program. Joint-majors should take *Sociology 100, 210, 211*, and two or more other Sociology courses.

Sociology 410 must be included among the eight or more Sociology courses required to complete the honours program with a single-major in Sociology.

Students planning to enter the honours program in Sociology are strongly urged to take *Statistics 100*, especially students who are planning to continue with post-graduate work in Sociology.

Students following the honours program in Sociology are advised to include a combination of courses from related disciplines; Anthropology, Economics, History, Politics, Psychology, and Philosophy.

Any student wishing to elect a joint-major honours program involving Sociology must obtain the permission of the department.

For advanced students the reading courses (*Sociology 390* and *490*) offer students the opportunity to work out with an instructor a specialized course which is not available in the regular course offerings, provided the instructor concerned is willing to give such a course.

Sociology 100

Introduction to Social Analysis: An introduction to the basic ideas and methods of sociological study. An examination of the elements of social structure and social behaviour—social relations, social groups, cultural norms and values—against the background of both simple and complex societies. Two lectures, one seminar weekly.
R.T. Bowles, W. Errens and A.D. Lewis

Sociology–Anthropology 200

Cultural Anthropology: See *Anthropology 200*.

Sociology 210

Sociological Enquiry: Microsociology. An introduction to the classical and current theories which sociologists have formulated about society and social behaviour. Representative monographs will be treated with respect to their theories, strategies of enquiry, and techniques of research. Schools considered: The “Chicago” school, ecology, and symbolic interactionism. Prerequisite: *Sociology 100*, or permission of department. Lecture, two seminars weekly.
John Hillman, R.T. Bowles and R.F. White

Note: Sociology 210 and 211 are offered jointly and must be taken together.

Sociology 211

Sociological Enquiry: Macrosociology. A companion course to *Sociology 210* which will treat monographs representative of historical sociology, evolutionary sociology, structural functionalism, and historical materialism. Prerequisite: *Sociology 100*, or permission of department. Lecture, two seminars weekly.
John Hillman, R.T. Bowles and R.F. White

Sociology 220

Introduction to Mathematical Sociology: Mathematical analysis of social structure, conflict and cooperation, inter-

personal attraction, communication, innovation, optimization of competing objectives with limited resources. Prerequisite: *Sociology 100* or permission of department. (Not offered in 1971-72.)

Sociology 221a

Methods of Research and Analysis I: This course is intended to provide familiarity with some of the technical tools of the discipline, and make a considerable proportion of the empirical literature in the field more intelligible. Prerequisite or co-requisite: *Sociology 100*.
B.D. Czarnocki

Sociology-Psychology 230

The Social Psychology of Organizations: An introduction to the application of psychological and sociological techniques to problems of industry and to other organizations, e.g. educational institutions. Prerequisite: *Sociology 100* or permission of department. (Not offered 1971-72.)

Sociology-Psychology 240

Social Psychology. (See *Psychology 240*).

Sociology 241

Family and Kinship: An analysis of the structure and functions of family and kinship, including the family as an agency of primary socialization. An examination of childhood, adolescence, courtship, marriage, parenthood and old age. A discussion of trends and problems affecting the contemporary family. Prerequisite: *Sociology 100* or permission of department. Lecture, two seminars weekly.

Sociology 280

Social Stratification: Theory and research on the forms and functions of social inequality in comparative and historical perspective. The nature of the relationship between social, political and economic power. Discussion of the criteria of social class, correlates of class position, and social mobility. Prerequisite: *Sociology 100* or permission of department. Lecture, two seminars weekly.

Sociology 311

Innovation and Creativity: A merging of theoretical and applied sociology, directed toward greater social awareness and to the possible contributions to social policy. The structure of innovation and the process of intentional change will be focused upon affecting outcomes in large organizations, community, and family life. Prerequisite: *Sociology 210* and *211*, or permission of department. Weekly tutorials.

J.B. Hudson

Sociology 312

Sociological Explanation and the Sociology of Knowledge: Various sociological views of "explanation", "science", and "knowledge" are explored critically. Topics include: Origins of scientific thought; consequences of scientific thought for the liberation and the manipulation of human personality, etc.; contributions of leading scholars in various eras of sociological thought (e.g., Comte, Spencer, St. Simon, Marx, etc.). Prerequisite: *Sociology 210-211* or permission of instructor. Lecture and seminar weekly.
Irwin Sperber

Sociology 321

Methods of Research and Analysis II: This is a course intended to provide the essential background for empirical work in Sociology and for informed evaluation of research reports. Emphasis is on selection, utility, and interpretation of the various methods. Prerequisites: *Sociology 210* and *211*, and either *Sociology 221a* or *Statistics 100*, or permission of instructor. One three-hour lecture-laboratory weekly.

B.D. Czarnocki and staff

Sociology 330b

Occupations and Professions: A study of the sociology of work and the relationship of occupational systems to the rest of society with special attention to careers and occupational choice, professionalization and the role of professional associations. Prerequisite: *Sociology 210* and *211*, or permission of department. Lecture, two seminars weekly.

R.F. White

Sociology 331a

Complex Organizations: An analysis of the structure and functioning of modern complex organizations as open systems, including the effects of changing technology, problems of rationality and control, design and assessment, organizational stress etc. Examples will be drawn from industrial, educational and health organizations. **Prerequisite:** *Sociology 210* and *211*, or permission of department. Lecture, two seminars weekly.
R.F. White

Sociology 340b

Sociology of Education: An examination of the structure and functions of education and their relationship to those of other social institutions, with particular reference to socialization and social control, ability and opportunity, social mobility, social and cultural factors in achievement and the teaching profession. **Prerequisite:** *Sociology 210* and *211* or permission of department. Lecture, two seminars weekly.
B.R. Blishen

Sociology 342

Social Structure and Personality: An examination of the effects of social structure upon personality growth, modes of human response to social influence, and the effects of human action on the social system. Explanation of the functioning and change of human groups and organizations, considering properties of social structure, social process, and a sociological approach to personality and motivational systems. Weekly lectures and tutorials.
J.B. Hudson

Sociology 360a

Sociology of Welfare: This course focuses on the development and application of sociological theory relevant to poverty and other welfare problems as a function of changing conditions in society, and on the meaning of welfare and its consequences for the individual and society. Lecture, two seminars weekly.
W. Errens

Sociology 360b

Social Administration: An examination of the structure and functions of the system of welfare programs and services in contemporary Canadian society. The course for the individual and society. Lecture, two seminars weekly.
Marjory P. Seeley

Sociology 361a

Deviance and Social Control: A study of the major theories of deviance and an examination of their relevance and utility in the understanding of the causal and ideological aspects of crime, alcoholism, drug addiction, and mental disorders. The nature of social control including an analysis of the role of punishment, treatment, and total institutions in our society. Lecture, two seminars weekly. (Not offered in 1971-72.)
Irwin Sperber

Sociology-Politics 370

Political Sociology: (See *Politics 370*).

Sociology 380

Social Change: Classical and modern theories of social change. An examination of the sources and consequences of large-scale social change with particular reference to industrialization and modernization. **Prerequisite:** *Sociology 210* and *211*, or permission of department. Lecture, seminar weekly.
John Hillman and B.D. Czarnocki

Sociology 381b

Race and Ethnic Relations: An analysis, employing comparative materials, of racial, ethnic, and other groups in society. Lecture, seminar weekly.
A.D. Lewis

Sociology 382b

Selected Topics in Demography: An examination of a number of currently important topics in demography with an emphasis on cross-national comparisons. Some areas to be included are the population crisis, patterns of urban development, etc. Lecture, seminar weekly.
B.D. Czarnocki

Experimental Programs

Sociology 383

Sociology of Collective Behaviour: An examination of the conditions generating political, religious and other group responses to situations of deprivation and social change. Types of social movements such as religious cults, riots, and revolutions will be examined in terms of ideology, organization, leadership patterns and participant characteristics. Prerequisite: permission of instructor. Lecture, seminar weekly.

A.D. Lewis and Irwin Sperber

Sociology 390

Reading Course.

Sociology 410

Honours Seminar: A reading course and discussion seminar to supervise the work of honours students in selected areas of sociological analysis. Students in this course will be responsible for a major research paper. Fortnightly seminars.

Sociology 422

Research Practicum: This course will provide the student with direct research experience on a research project directed by a faculty member and will include research design, data collection, and various analytical approaches. Open to third- and fourth-year students. Prerequisite: permission of instructor.

R.T. Bowles and W. Errens

Sociology 480

Canadian Society: The institutional framework of Canadian society compared with other modern urban, industrial societies. Prerequisite: *Sociology 210* and *211*, and at least two other courses in Sociology, or permission of instructor. Two lectures, seminar weekly.

B.R. Blishen

Sociology 490

Reading Course.

The University believes that a dynamic academic community should be prepared to introduce innovations in approaches to learning that appear to have considerable merit, but which can only be evaluated after a trial period. If experimental programs prove successful, they are adopted on a permanent basis.

Social Theory

An experimental program of cross-disciplinary studies that attempts to integrate many approaches to the study of problems of society and culture. Students may concentrate on Social Theory either in conjunction with a major in an established discipline or within a general arts program. Courses are chosen in conformity with guidelines established by the Committee on Social Theory. Inquiries and applications for admission should be addressed to the Chairman, Committee on Social Theory.

Senate has approved the following courses in Social Theory for a trial period of three years:

Social Theory 200

An introductory seminar involving the study of selected seminal works in social theory. Weekly meetings. Prerequisite: permission of the Committee on Social Theory. Enrolment will be limited to 15.

David Kettler, M.L. Rubinoff and staff

Social Theory 400

Advanced seminar in social theory. A discussion and assessment of several methodologies and approaches to specific problems in social theory and practice. Problems which may be examined include urbanization, population pressures, educational issues, environmental control, social justice, power and democratization, evolution and revolution, and war and aggression. Weekly seminars. Prerequisite: permission of the Committee. (Offered in 1972-73.)

Other courses included in the program:

Sociology 210: Microsociology

Sociology 211: Macrosociology

Philosophy 214: Existentialism and Phenomenology

History 220: Modern European history

Philosophy-Politics 233: Introduction to political philosophy

Philosophy 270: Philosophy of science

Sociology 311: Innovation and creativity
Sociology 312: Sociological explanation
Philosophy 312: Philosophy in the nineteenth century
Sociology 321: Methods of analysis
Philosophy-Psychology 323a: Philosophy of mind
Philosophy-Politics 333: Revolutionary theory
Philosophy-Politics 334: Liberal democratic theory
Sociology 380: Social change
Politics 410: Contemporary political analysis
Politics 440: Marxism: criticism and development
History-Philosophy 470: Philosophy of history

Development Studies

An interdepartmental committee is hoping to establish a program in development studies. The following courses will be of interest to students who wish to explore the problems of underdevelopment.

Anthropology 320: Applied Anthropology
Economics 330: Development economics
History 340: Problems in "imperialism" 1850-1960
Politics 350: The politics of developing areas
Politics 351: Politics and social change in Africa
Sociology 380: Social change
Economics 430: Economic development
 Also courses in cultural anthropology

Canadian Studies

Although there is no program in Canadian Studies, students may wish to enrol in some of the following courses.

History 100: An introduction to the study of history
Politics 100: An introduction to the study of politics
Sociology 100: Introduction to social analysis
Anthropology 201: Native societies in Canada
Economics 210: Public finance
French 220: French-Canadian literature
History-Politics 300: Canadian history (federalism)
Anthropology 310: Historical archaeology of Canada
Anthropology 330: Algonquin linguistics
English 360: Studies in Canadian literature
History-Politics 400: Contemporary Canadian problems

History 401: Growth of British North American provinces
Politics 420: Foreign policy analysis (U.S.A. and Canada)
Anthropology 421: Ethnohistory of Canada
Sociology 480: Canadian society

Reading Course Option

The Academic Development Committee has approved on a trial basis a proposal to permit students to enrol in regular courses on a reading basis.

A student who has satisfactorily completed his first five courses of study may apply to take up to three regular courses a year independently on a reading basis. The option is offered to a limited number of students only in courses in which the subject material is appropriate for private study. Before the option is extended in any course, it must be approved by the tutor and his department. The deadline for registration is October 31.





Fees

Academic fees

The total fee for full-time undergraduates for the academic year is \$555. This figure includes registration and tuition fees, and incidental fees of \$55 for health services, athletics and student government. Academic fees may be paid in two instalments, in which case the total is increased by \$5.

Academic Fees for Part-time Students

Part-time students, i.e., students taking four or fewer courses during the regular session, pay \$115 per full course, \$60 per half course, or \$115 for two half courses. These will be due on or before August 31 and may be paid in two instalments, in which case, an additional charge of \$5 is made. The first instalment, the amount of \$60, is payable on or before August 31, and the second, also for \$60, is due on or before January 31. A deposit of \$15 per course, which is not normally refundable, must accompany applications. For those who request college affiliation, a further fee of \$10 is charged.

Summer Session Fees

Fees for students taking courses in the summer session will be \$110 for each course and will be due on or before the first day of classes. A deposit of \$10 per course must accompany applications and is not normally refundable.

Students withdrawing from a course will receive a rebate according to the regular university rebate schedule. The deposit will not be refunded.

Books

Costs of required books and materials vary according to individual course requirements with science courses tending to be more expensive than arts courses. Students should be prepared to spend between \$25 and \$50 per course for books and materials. Special fees may be required in some courses involving laboratory or field work.

Residence Fees

The fees for room and board for the academic year, excluding the Christmas and the March vacation and reading periods are \$1,100 for a single room and \$1,030 for a double room. If paid in two instalments, and additional charge of \$5 is made.

Non-resident Fee

Non-residents are encouraged to enter fully into the life of their colleges, and accordingly make considerable use of college facilities. A non-resident fee of \$90, including \$25 to be applied against meals taken in college, is payable by all full-time non-resident students in addition to the academic fee. This fee is payable at the same time as academic fees; if paid in instalments, the two instalments are \$50 and \$40.

Special Students

Special students taking four or five courses are considered to be full-time students and must pay full tuition fees and appropriate college fees.

Certain further fees may be charged in appropriate circumstances.

All fees are subject to change.

Deposits on Account of Academic and Residence Fees

As explained on Page 22, students entering, or returning to the University are required to submit a deposit of \$50 against their tuition fees before July 15. An additional \$50 deposit is payable by those students accepting a place in residence.

These deposits are not normally refundable. In cases of economic hardship, the Registrar may authorize deposit refunds to accepted candidates who present a valid petition before August 15.

Payment of Fees

Fee payments should be mailed to the Office of the Comptroller, and are due and payable on or before August 31. If paid in instalments, the first instalment must be paid on or before August 31, and the second instalment, on or before January 31. If a due date falls on a weekend or holiday, the due date shall be deemed to be the close of preceding date of business.

Deposits received on account of academic or residence fees will be applied against the first instalments of these fees.

All cheques or other remittances should be made payable to Trent University.

Part-Time Studies

Charges may be imposed on any accounts remaining unpaid after the end of the month in which they became payable.

Special arrangements may be made for students whose fees are paid by funds from scholarships, awards, grants or other forms of assistance.

Students may be debarred from writing final examinations of each year if any outstanding University accounts remain unpaid at the conclusion of the week preceding the writing of final examinations. The academic record of a student who has any accounts outstanding will not be released by the University.

Fees Refunds

Refunds of any fees paid are made only in special cases and on the written authorization of a student's College Head. Any refunds granted will be subject to a refund charge. Incidental fees are not refundable.



The part-time studies program provides citizens of Peterborough and the Trent Valley with an opportunity to pursue a wide variety of courses leading to an Arts or Science degree, as well as general interest non-credit courses. The latter, while not recognized for University credit, may lead to certification by co-operating organizations.

Part-time courses for credit are available during the regular academic session or during the summer session. The introduction of the course credit system in 1970 eliminated almost all differences between part-time and full-time students. Part-time students may enrol in any course given at the University for which they have the prerequisite. Please consult the appropriate sections of this Calendar for details of requirements for Ordinary and Honours programs.

To accommodate part-time students whose schedule does not permit attendance during the day, a number of regular courses are scheduled late in the afternoon and a limited number in the evening. A long-range timetable of courses scheduled in the late afternoon or evening and during the summer session is available on request from the Part-time Studies Office.

Students seeking admission with advanced standing should consult the Admission and Registration section of this Calendar.

Applicants for advanced standing must send their Ontario Grade 13 certificates or equivalent with the application and must arrange for forwarding of official transcripts of their university records to the Director of Part-time Studies.

Summer Session

The six-week summer session follows as closely as is practical the format of regular winter session courses, by including small group teaching as well as lectures.

In addition to the six weeks of classroom work, students enrolled in the summer courses may be assigned pre-course reading and assignments. Pre-course seminars are also scheduled in a number of courses for Saturday mornings in late May or early June.

Students enrolled in the summer session are not permitted to take more than two courses during any one summer session, and in some cases only one course is allowed.

Graduate Studies

Residential and common room facilities are available in Champlain College, along with dining room and snack bar services.

Application for summer school should be made no later than May 1.

Withdrawal

Students enrolled in a summer session course may withdraw at any time up to the end of the fourth week of classes without penalty of failure. A withdrawal after this date will be considered as a failure in the course. Part-time students enrolled in the regular session may withdraw before March 1 without penalty of failure.

Students withdrawing from a course must notify the Director of Part-time Studies in writing of their intention to withdraw. If notice of withdrawal is not received in writing, the student may be charged with a failure.

Regular and Summer Session Fees

See *Fees* section of this Calendar.

Please consult the *Part-time Winter Studies* brochure, the *Summer Session* brochure, and the *Non-credit Studies* brochure, available from the Part-time Studies Office, for detailed outlines of these programs.

Programs of Graduate Studies are being introduced at Trent on a selective basis, with Master of Science programs now under way in Physics and Chemistry, and Master of Arts programs offered in History. Every program of Graduate Studies introduced at Trent will be submitted to the Appraisals Committee of the Ontario Council on Graduate Studies to ensure that it meets the high standards required for graduate studies in Ontario universities. Appraisal will soon be sought for other programs in the Humanities and Social Sciences.

For further information, write to the Dean of Graduate Studies, Trent University, Peterborough, Ontario, or consult the Graduate Studies Calendar.



Pre-Professional Studies

The University believes that there is considerable merit in studying at one university before proceeding to professional study at another. The curriculum has therefore been planned to offer attractive courses which meet the academic requirements of Ontario's professional faculties for students proposing to proceed to another university for professional studies.

The academic requirements for admission to some professional faculties are summarized below:

Dentistry

The University of Western Ontario and the University of Toronto offer instruction in Dentistry in Ontario. The admission requirements for this course are successful completion of either a first year science program or a degree in Science or Arts. Possession of these requirements renders a candidate eligible for selection; it does not guarantee admission. Prospective students of Dentistry are advised to consult very carefully the calendar of the Faculty of Dentistry of the university in which they are interested.

Law

For admission to the study of Law, at least two years of university study beyond the Grade 13 level are required.

Medicine

The Faculties of Medicine at McMaster, Ottawa, Queen's, Toronto and Western Ontario Universities, require all candidates for admission to have completed either two-year pre-medical courses which they offer, or three years of study, with courses appropriate for prospective medical students, at another recognized university. So that students may take full advantage of the science courses at Trent University which will prepare them for the professional study of Medicine, they are advised to complete the secondary school program in Mathematics A and B, Physics and Chemistry.

All Canadian faculties of Medicine have many more applicants than they can admit, and possession of the entrance requirements does not guarantee admission. Prospective medical students are advised to consult very carefully the calendar of any faculty of Medicine in which they are interested.

Chartered Accountancy

The Institute of Chartered Accountants of Ontario has placed Trent University on the list of designated universities whose graduates are eligible for entry into the Institute's course of studies. Graduates of the University are, therefore, eligible for the course offered by the Institute.

Ontario Colleges of Education

Interim High School Assistants' Certificate, Type B: Graduates of the ordinary program of Trent University meet the requirements for admission to the professional course leading to the Interim High School Assistants' Certificate, Type B. Endorsement of Certificate, Type B, is given to candidates offering five university courses with an overall average of second-class standing, in a subject taught in Ontario schools. Students intending to qualify for admission to the course leading to the Interim High School Assistants' Certificate, Type B, must include in their programs at least seven courses in at least two subjects taught in secondary school.

Interim High School Assistants' Certificate, Type A: For admission to the course leading to Type A certificates in the Ontario Colleges of Education, four years of university study beyond the Grade 13 level are required. Students are expected to study subjects that are taught in Ontario Secondary Schools. Graduates of the ordinary program however may become eligible for admission to the course leading to Type A certificates in a number of ways.

Further information for prospective teachers is available from the Registrars of the Colleges of Education.

Student Services and Miscellaneous Information

University Bookstore

The University owns and operates a bookstore at 175 Hunter Street West, which is easily reached from the University buses. With some 3,000 square feet of floor space, the bookstore is well suited to meet the wide range of needs and interests of the students, faculty and the Peterborough community.

All books in print can be obtained on individual order. A collection of bibliographical tools is maintained which students and staff are encouraged to use.

The bookstore aims to be more than a mere outlet for textbooks and stationery supplies. To this end, records, artists' supplies, a wide range of periodicals, and books of general interest are made available. The bookstore seeks to create an atmosphere that will encourage the enjoyment of books and the building of a private library.

University Student Health Service

The University Student Health Service is located at 302 King St. near Rubidge Hall and provides both medical and counselling services for full-time students. Emergency treatment is available 24 hours a day.



The University requires all students to carry both medical and hospital insurance. By Ontario law, these consist of the Ontario Health Services Insurance Plan (OHSIP) and the Ontario Hospital Services Commission (OHSC). For Canadian students from outside Ontario, coverage should be obtained from their own province. For students from outside Canada special arrangements may have to be made at the time of registration.

Students seeking medical treatment are charged a fee for service which is normally recoverable from their medical insurance.

Athletic Program

The University has developed a diversified athletic and recreational program which makes use of the facilities available in the city and surrounding area. Located on the campus are a full-size flood-lit playing field, a quarter-mile track, tennis courts and a squash court. The University also has its own sailboats, canoes, and paired shells. Arrangements are made within Peterborough for the use of rinks and swimming pools.

In the fall of 1969, the University erected a temporary air-supported structure on the Nassau campus that will provide during the winter months heated indoor facilities for such activities as badminton, basketball, fencing, judo, tennis, track, volleyball, and wrestling. Planning has been undertaken for the development of a permanent athletic fieldhouse that will include a gymnasium and related facilities, squash courts, a swimming pool and locker rooms.

The athletic program is organized to meet the varying interests of the students with competition for both men and women available at the inter-university, inter-college, and intramural levels. For the purpose of inter-university competition, Trent University is a member of the Ontario Intercollegiate Athletic Association.

Inter-university and inter-college competition is undertaken in badminton, basketball, curling, fencing, golf, hockey, harrier, judo, rowing, rugger, skiing, soccer, sailing, softball, squash, tennis, track, touch football, and wrestling. The University Outing Club, which organizes regular camping and canoeing expeditions into the Kawartha hinterland helps to round out this vigorous and expanding athletic and recreational program.

Career Planning and Placement

Students seeking assistance in finding employment are invited to use the facilities of the Placement Office. A principal concern of this office is the career planning of graduating students and their eventual employment. On-campus interviews are arranged with representatives of business, industry and government agencies. Students seeking information about teaching, professional schools, and graduate study also find this office useful.

Religion

Trent University is a multi-denominational university. Undergraduates are encouraged to take part in the religious societies and activities at the University.

Undergraduate Activities

The University community has fostered and developed a rich and varied program of social and cultural activities. Participation is invited in the numerous student organizations and activities; the early years of the University have seen the establishment and lively growth of literary magazines, a yearbook, a community action program, and of dramatic, art, music, debating and film societies, plus a student newspaper and many other activities and events. Each of the college governments sponsors a wide variety of formal and informal activity.

Among the facilities that Peterborough offers to members of the University are a fine public library, a museum, symphony orchestra, a varied theatrical program, and regular visits by musical and theatrical companies.

Conduct and Dress

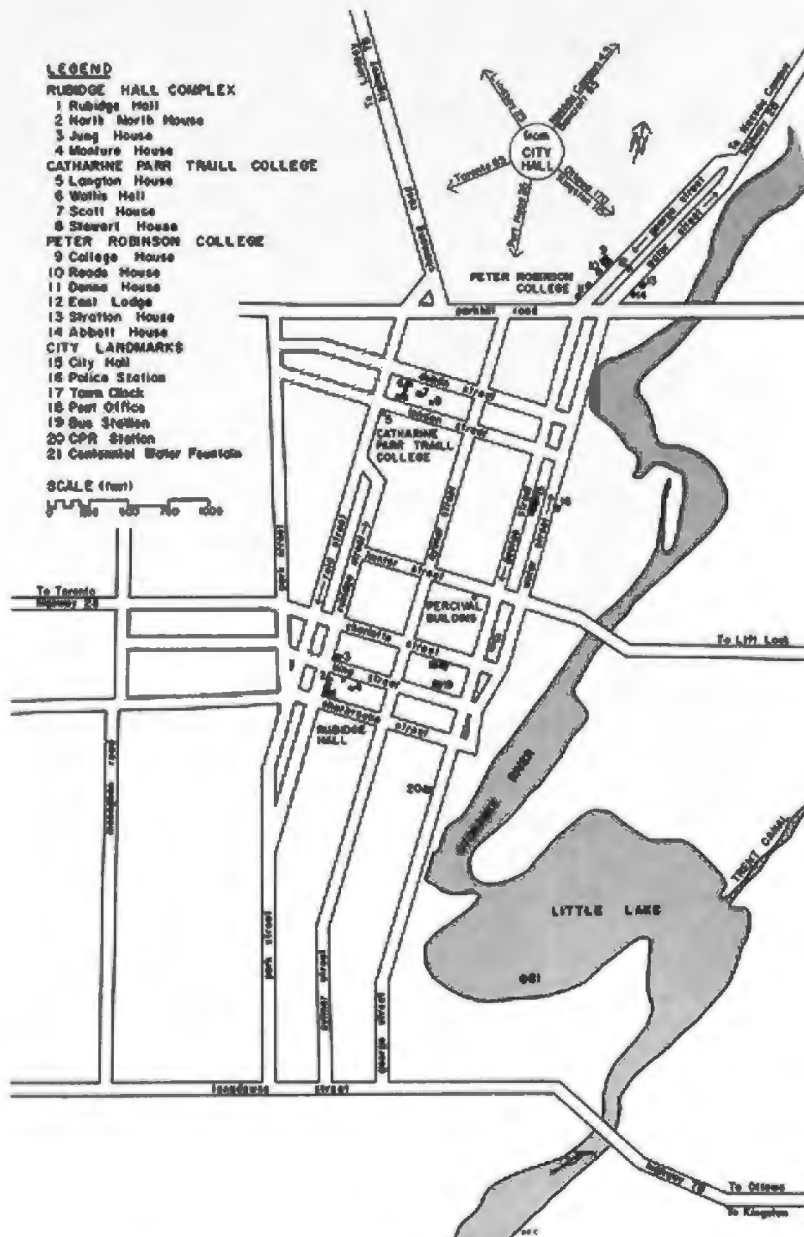
Undergraduates are expected to conduct themselves at all times in a manner appropriate to members of a university.

Many undergraduates wear the University gown on formal academic occasions, including lectures, seminars, tutorials, examinations, formal visits to members of the faculty, and various College functions. University gowns may be purchased from the Porter at Rubidge Hall or rented from him for a nominal fee each year.

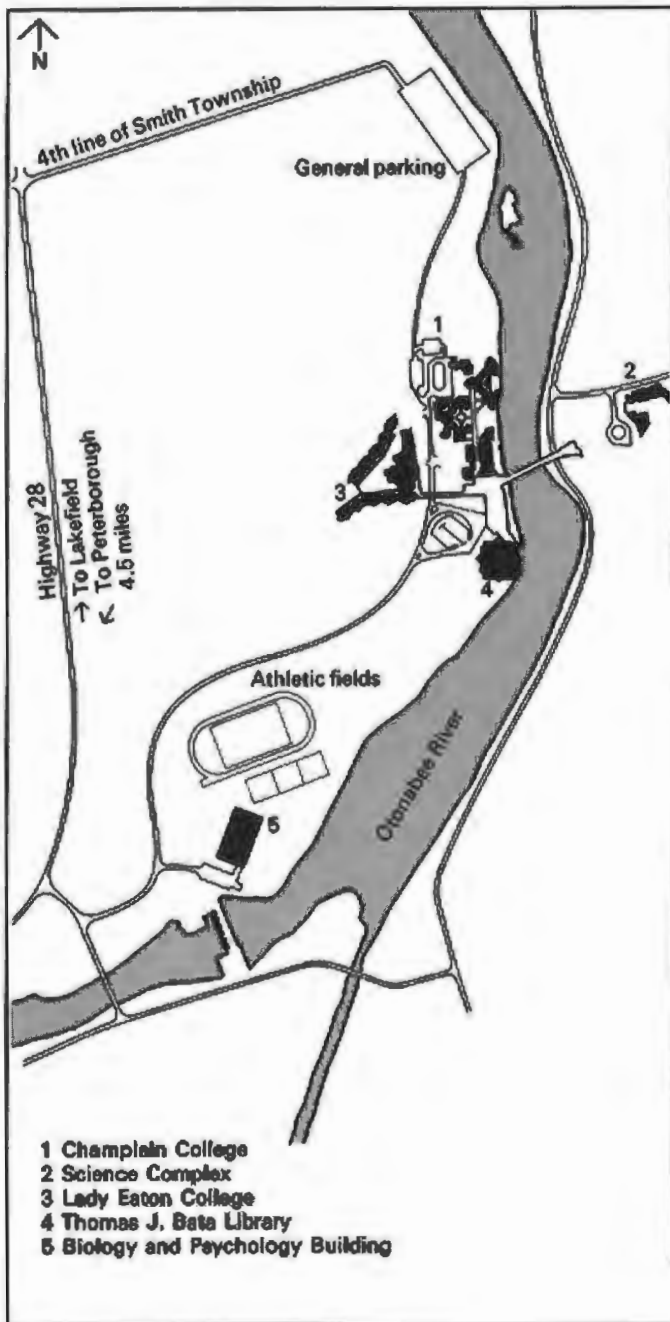


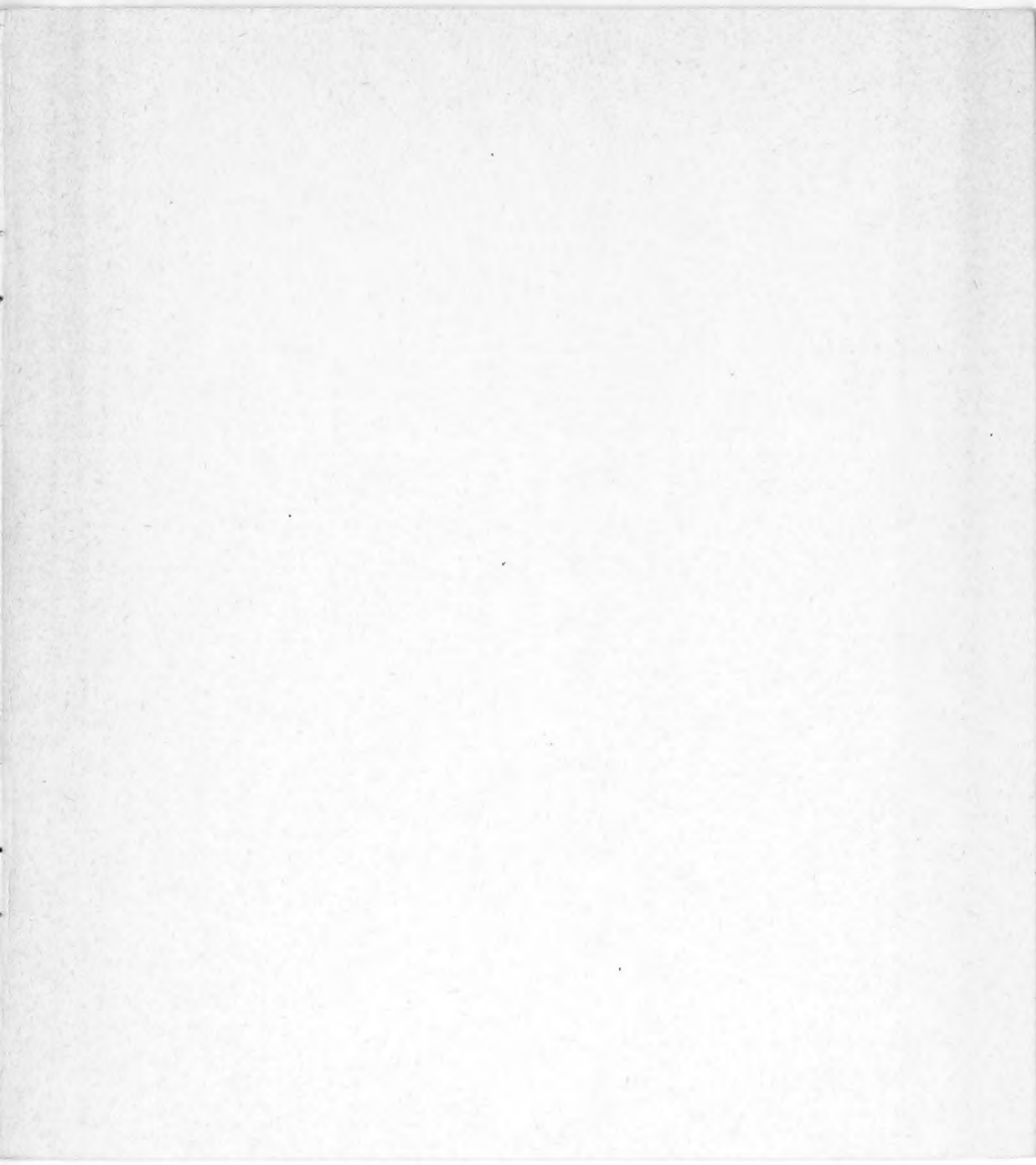
Maps of the University

Trent University in Peterborough



University Map Nassau Campus





Further Information:
Office of the Registrar
Trent University
Peterborough, Ontario

